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TRAFFIC ACCESS AND IMPACT STUDY

Proposed Redevelopment
Commercial to Residential
41 Richmondville Avenue
Westport, Connecticut

Prepared for:
Richmondville LLC

January 2020

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February 3, 2020

Richmondville, LLC
1723 Post Road East
Westport, Connecticut 06880

Gentlemen:

We are pleased to submit this Report for submission to the Town of Westport for consideration to evaluate potential impacts, if any, for the proposed redevelopment of the Subject Property and conversion from office to residential use.

To complete these analyses detailed traffic counts were conducted at four intersections, including the two site access drives, the intersection of Richmondville Avenue at Main Street and the intersection of Oak Street at Clinton Avenue. These traffic counts were conducted during the weekday morning, weekday afternoon and Saturday midday peak periods and identified the peak hour conditions on this road, as it relates to commuter traffic.

A development of this type and size will eliminate the potential of a fully occupied 55,000 square-foot office building potentially generating 63, 81 and 29 vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively, to a development of 33 units generating 17, 22 and 23 vehicle trip ends based on the Institute of Transportation Engineers (ITE) trip generation rates. If trip generation rates were to be applied as actually identified at another similar residential development, it could result in a trip generation of 8, 10 and 27 vehicle trip ends during the same three peak hours noted above. Regardless of the methodology of determining trip generation rates to apply to the 33-unit development, the amount of traffic to be added is less than what would be added if the buildings were to be fully occupied as office use.

Based on results of these analyses area roads do not require mitigation to accommodate reuse of the existing buildings and conversion from an office to a residential development. However, it is recommended that the site access drives be clearly defined with appropriate curbing, pavement markings and landscaping and include a STOP sign on the driveway approach, a STOP bar and a double yellow centerline on the terminus of the driveway approaching Richmondville Avenue.

There are no recommendations to upgrade Richmondville Avenue; however, there is interest to apply appropriate traffic calming measures; however, installing STOP signs or SPEED HUMPS are not appropriate; however, long-term the Town may consider a minor widening of the road in the sections that measure only 17 feet wide and consideration to remove obstacles located along the

side of the road, which include fences, stonewalls and slopes of grades away from the roadway. These findings are unrelated to the proposed reuse of the existing building.

Sincerely,

Michael A. Galante
Managing Principal

Enclosure

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SUMMARY

This Traffic Access and Impact Study was prepared for submission to the Town of Westport for consideration to determine potential impacts, if any, for the redevelopment of the Subject Property located at 41 Richmondville Avenue. The site is currently occupied by office uses within the building comprising approximately 55,000 square feet of floor area. The proposal is to eliminate a portion of the building, remodel and upgrade the remaining building to provide 33 residential units.

Access to the will be maintained at two existing site driveways one located to the north of the building and one located to the south of the building to Richmondville Avenue. On-site parking will be provided for residents and guests. It is anticipated that all deliveries such as Federal Express and UPS will access the southerly driveway to access the building.

A development of this type and size is estimated to generate 17, 22 and 23 vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. The existing use of the building, if fully occupied, could generate 63, 81 and 29 vehicle trip ends during the same peak hours noted above. If trip generation rates obtained through actual traffic counts at the Terra Nova development referenced in this report were to be used, this redevelopment of the Subject Property on Richmondville Avenue would result in site traffic generation of 8, 10 and 27 vehicle trip ends during the same weekday morning, weekday afternoon and Saturday midday peak hours, respectively. Regardless of the trip generation rates used in this analysis and for consistency the ITE trip generation rates are used since they are generally higher for most of the peak hours used in the analysis. This development will have minimal impact on traffic conditions and operational characteristics of Richmondville Avenue or at the intersections of Oak Street at Clinton Avenue; however, at the Main Street/Richmondville Avenue intersection there will be a change in Level of Service "D" to "E" during the Saturday midday peak hour. This is due to a six second increase in delay, which would match that of a fully occupied office building.

Based on the results of the analyses, which indicates Level of Service will remain the same, there are no recommendations to modify traffic control or pavement markings other than at the site driveways and along the site frontage.

It is recommended that at the site driveway STOP signs be installed to control exiting movements from the site and include a STOP bar and a short double yellow centerline at the approach to the intersection with Richmondville Avenue. Along the site frontage any opportunities to install a curb to separate the pavement to the front of the existing building would be appropriate to create this separation. It is recommended that where there are currently NO PARKING signs installed along Richmondville Avenue near the site frontage that additional signing be installed along the westerly side of the road and specifically along the site frontage and existing building to prohibit on-street parking.

Based on an evaluation of possible traffic calming measures there are limited opportunities; however, the Town may consider long-term to widen the sections of Richmondville Avenue that are 17 feet in width to provide at least a pavement width of 22 feet. However, there is no available right-of-way to provide this roadway improvement at this time.

The results of the analyses and evaluations of Richmondville Avenue and other intersections near the site is that the redevelopment of the Subject Property from an office development to a residential development will result in a reduction in site traffic and a reduction in potential impacts to area roadways. This is considered an overall benefit to the neighbors and residents near the site.

As noted above, the existing traffic control operation of the Main Street/Richmondville Avenue intersection as a STOP sign control intersection is appropriate and should be maintained. There are no opportunities to consider the installation of a traffic signal based on the results of traffic counts and an assessment of traffic volumes following criteria followed by the Town and CTDOT for minimum volume for warrants and minimum volumes for interruptions of traffic.

To potentially reduce speed or introduce traffic calming to Richmondville Avenue the width of the pavement is actually a mitigating measure to potentially reduce speed. However, along the

site frontage it may be appropriate to install some type of curbing and physical separation between the pavement and the building frontage where there is adequate additional pavement area to do so without impacting traffic operations.

INTRODUCTION

This Traffic Impact Study has been completed to provide the Town with an assessment of potential traffic impacts, if any, from the proposed redevelopment of the commercial property to a residential development. It addresses existing, no-build and build traffic volumes along Richmondville Avenue and nearby intersections at Main Street and Clinton Avenue, as well as along the site frontage. This report follows a typical traffic report format and includes baseline traffic volumes, future no-build/redevelopment traffic volumes on area roads and future build traffic volumes, with the redevelopment of the Subject Property as a residential development. In this report it includes a description of roadways, accident history, specific issues related to Richmondville Avenue, site traffic estimates, capacity analysis procedures and the results of these analyses. This report also includes an assessment of potential signalization of Richmondville Avenue at Main Street and other traffic calming measures along Richmondville Avenue.

Project Description

The proposal is to redevelop the Subject Property, which is currently partially occupied and a commercial development comprising approximately 55,000 square feet of commercial space, with several tenants within the existing building. The proposal is to redevelop the site, which actually will include removal of portions of the existing building and redevelopment of the remaining building to include 33 residential units. Site access will be maintained at the two existing access points to Richmondville Avenue, with both driveways remaining two-way access points controlled with STOP signs on the site exit approaches. For purposes of completing this traffic analysis it is assumed this development will be approved, redeveloped and fully occupied by the end of 2022.

EXISTING CONDITIONS

This section of the report provides a description of area roadways and specific conditions found along Richmondville Avenue, current traffic volumes and accident history. It also provides a description of current traffic control, pavement width and specific characteristics of Richmondville Avenue for its entire length, including Oak Street to the northeast.

Roadways

Richmondville Avenue – This is a two-lane, two-way, Town-maintained roadway. It begins to the southeast at a T-type intersection with Main Street. The Richmondville Avenue approach to Main Street is controlled with a STOP sign. This roadway continues in a northwest direction intersecting with several local, dead-end, private roadways and access drives in this residential neighborhood. It provides access to the site, which is immediately south of the Millbank Road/Izzo Lane intersection. To the north of this intersection it continues and intersects with Oak Street, which is an ALL-WAY STOP sign controlled intersection.

The pavement width along Richmondville Avenue varies in width and is generally between 17 feet and 27 feet between Main Street and the site frontage. The widest pavement is along the site frontage where the pavement is actually up to the building/structure of this roadway. The mid-section, south of the site, has a pavement width of approximately 17 feet and 23 to 25 feet near Main Street and other sections immediately south of the site frontage.

This road has a posted speed limit of 20 miles per hour and limited signing to control or restrict on-street parking. There are NO PARKING signs located along Richmondville Avenue between Main Street and Carlisle Court and in the vicinity of the site frontage and south of the site frontage. Other sections do not have any restrictions for on-street parking; however, on-street parking does not occur due to the limited width of the roadway, which provides one travel lane in each direction. This roadway does not provide any paved shoulders and in certain sections

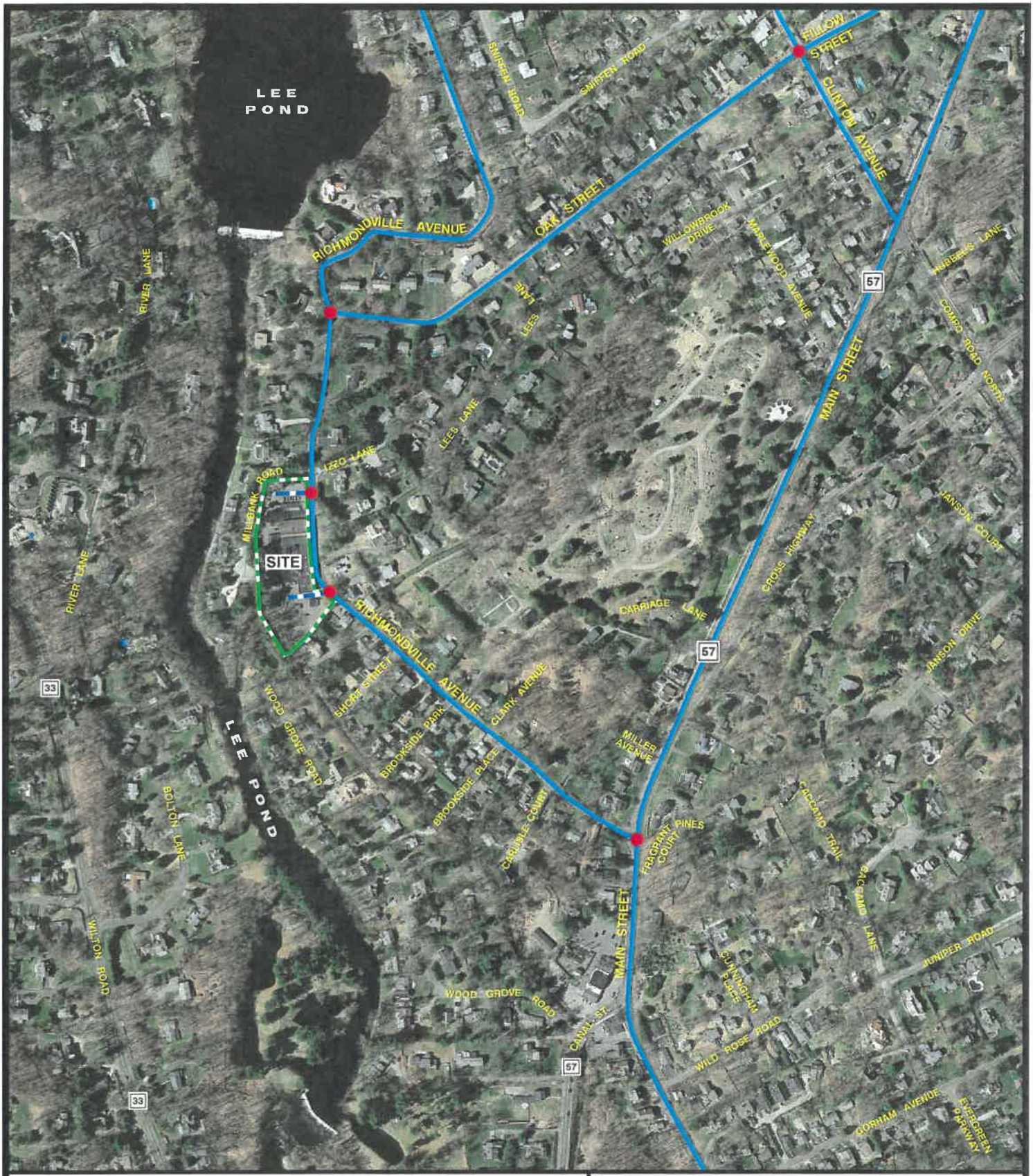
stonewalls and fences line the edge of the pavement. It is also important to note that most, if not all, of the side road approaches to Richmondville Avenue do not have any traffic control.

Oak Street – Oak Street is generally an east-west, local roadway maintained by the Town. One travel lane is provided in each direction, with on-street parking generally permitted. This road has speed humps located at two locations east of the Richmondville Avenue ALL-WAY STOP sign controlled intersection. The posted speed limit on this road is 25 miles per hour. There are STOP signs on the Oak Street approaches to the Maplewood Avenue intersection and an ALL-WAY STOP control condition at the Clinton Avenue intersection. This road has a pavement width of approximately 24 feet, without sidewalks or paved shoulders.

Main Street – Main Street is a north-south, State-maintained roadway, which is also designated State Route 57. This road begins to the south at the intersection with State Route 33, which is designated Wilton Road. This road continues in a northerly direction and is designated Canal Street and intersects with Main Street.

Main Street in the vicinity of the Richmondville Avenue intersection provides one travel lane in each direction, a double yellow centerline, curbing and sidewalks along certain sections. This road includes a traffic signal at the Canal Street intersection, which is the continuation of State Route 57 south of the Richmondville Avenue intersection. To the north, Main Street continues intersecting with Clinton Avenue and north towards the Merritt Parkway at Interchange 42.

Figure 1 provides a graphic illustration of the area roadways described above and highlights the site location. Figure 2 provides more detailed information of traffic and roadway conditions, as described above. Photographs of Richmondville Avenue and Oak Street are included in the Appendix of this report.



LEGEND:

- Study Area Intersections
- Key Roadways
- Site Access
- Property Line

SITE LOCATION MAP

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

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Scale in Feet
450 360 270 180 90 0 450

1

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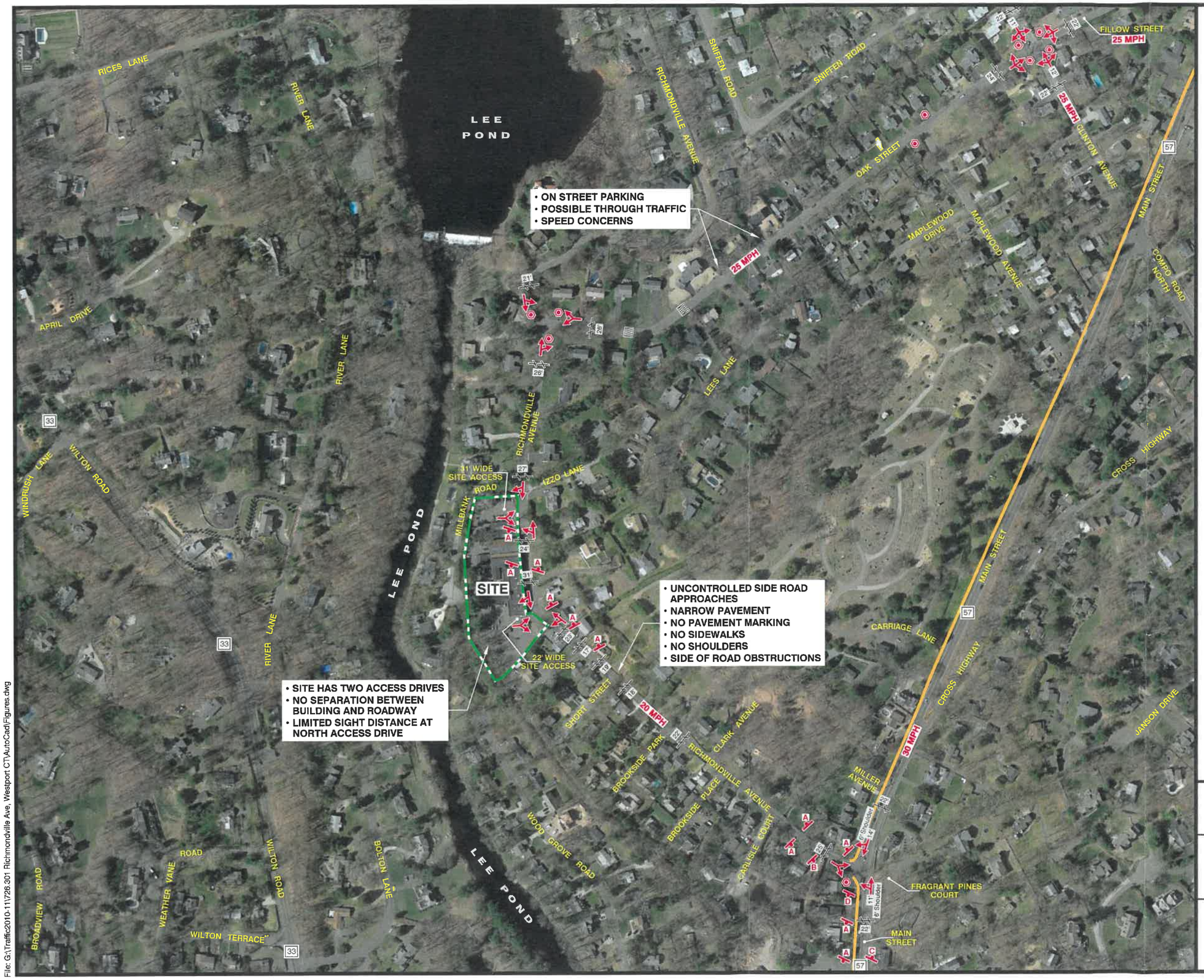

LEGEND

- TRAFFIC LANE
- STOP SIGN
- TRAFFIC SIGN
- SPEED HUMP
- 00 MPH SPEED LIMIT
- SIDEWALK
- PROPERTYLINE

SIGNS LEGEND

- NO PARKING ANY TIME — A
- NO PARKING HERE TO CORNER — B
- NO PARKING ANY TIME ⟷ — C
- NO PARKING ANY TIME ← — D

CURRENT STREET SYSTEM CHARACTERISTICS

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

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A HARDESTY & HANOVER COMPANY

Scale in Feet
300 225 150 75 0 300

2

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Traffic Volumes

To develop a baseline traffic condition for area roadways, manual turning movement counts were conducted by representatives of Frederick P. Clarke Associates, as well as the installation of an Automatic Traffic Recorder (ATR). The turning movement counts were conducted at the following intersections to identify typical weekday morning, weekday afternoon and Saturday midday peak hours:

- Richmondville Avenue at Main Street;
- Richmondville Avenue at south site driveway;
- Richmondville Avenue at site north access drive; and,
- Oak Street at Clinton Avenue.

These traffic counts were conducted at each of the intersections during the following time periods, except for at the Richmondville Avenue/Main Street intersection, which was a 12-hour traffic count during a typical weekday from 7:00 A.M. to 7:00 P.M.:

- Weekday morning – 7:00 to 9:00 A.M.;
- Weekday afternoon – 3:00 to 6:00 P.M.; and,
- Saturday morning/midday – 10:00 A.M. to 2:00 P.M.

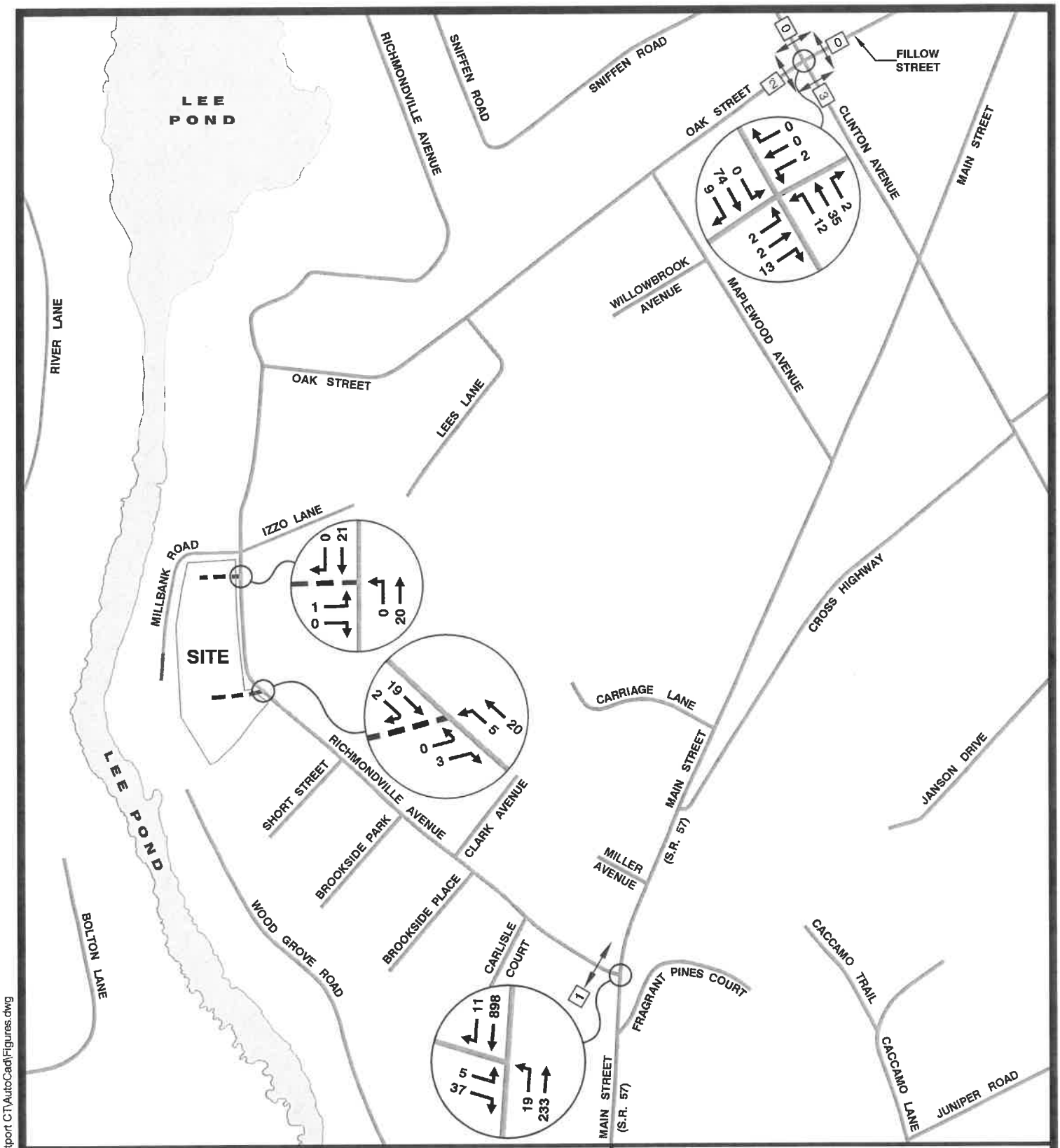
Based on the results of the traffic counting program and specifically to identify peak hour volumes for the purposes of completing this analysis, the following time periods were identified and used as a baseline condition:

- Weekday morning – 7:00 to 8:00 A.M.;
- Weekday afternoon – 4:30 to 5:30 P.M.; and,
- Saturday midday – 12:30 to 1:30 P.M.

The traffic counts were conducted on Saturday, October 26, 2019, Wednesday, October 30, 2019, Wednesday, November 13, 2019, Saturday November 16, 2019, Tuesday, December 3, 2019, Saturday, December 7, 2019 and Thursday, December 12, 2019. The peak hour turning movement volumes are graphically illustrated in Figures 3 through 5 for the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. Table 1 provides a summary of the peak hour volumes for Main Street, Richmondville Avenue, Oak Street, Clinton Avenue and existing conditions at the site driveways.

The traffic count data indicates that Main Street, north of the Richmondville Avenue intersection, had a recorded two-way volume of 1,146, 1,335 and 1,277 vehicles during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. The two-way volumes were similar south of the Richmondville Avenue on Main Street. On Richmondville Avenue, west of the Main Street intersection, the recorded two-way volume was found to be 72, 80 and 135 vehicles during the same three peak hours noted above. By comparison the recorded two-way volume on Richmondville Avenue immediately south of the site's southerly driveway was recorded at 22, 51 and 33 vehicles during the same three peak hours. On Richmondville Avenue, north of the northerly driveway, the recorded two-way volume was found to be 42, 52 and 31 vehicles during the same three peak hours noted above. On Oak Street, west of the Clinton Avenue intersection, the recorded two-way volumes were found to 38, 40 and 50 vehicles during the same three peak hours previously noted. On Clinton Avenue, north of the Oak Street intersection the recorded two-way volumes were found to be 120, 194 and 173 vehicles during the same three peak hours. Similar two-way volumes were found on Clinton Avenue south of the Oak Street intersection.

At the site driveways, the recorded volumes were found to be 10, 2 and 2 at the southerly driveway during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. At the northerly driveway to the site the recorded volumes were found to be 1, 14 and 1 during the same three peak hours noted above.



LEGEND:

0 Pedestrians (by approach)

Site Access

NOTE:

Manual turning movement counts conducted by Frederick P. Clark Associates on Wednesday, October 30, 2019, Wednesday, November 13, 2019, Tuesday, December 3, 2019 and Thursday, December 12, 2019.

2019 EXISTING TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR
(7:00 to 8:00 A.M.)

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

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Not to Scale

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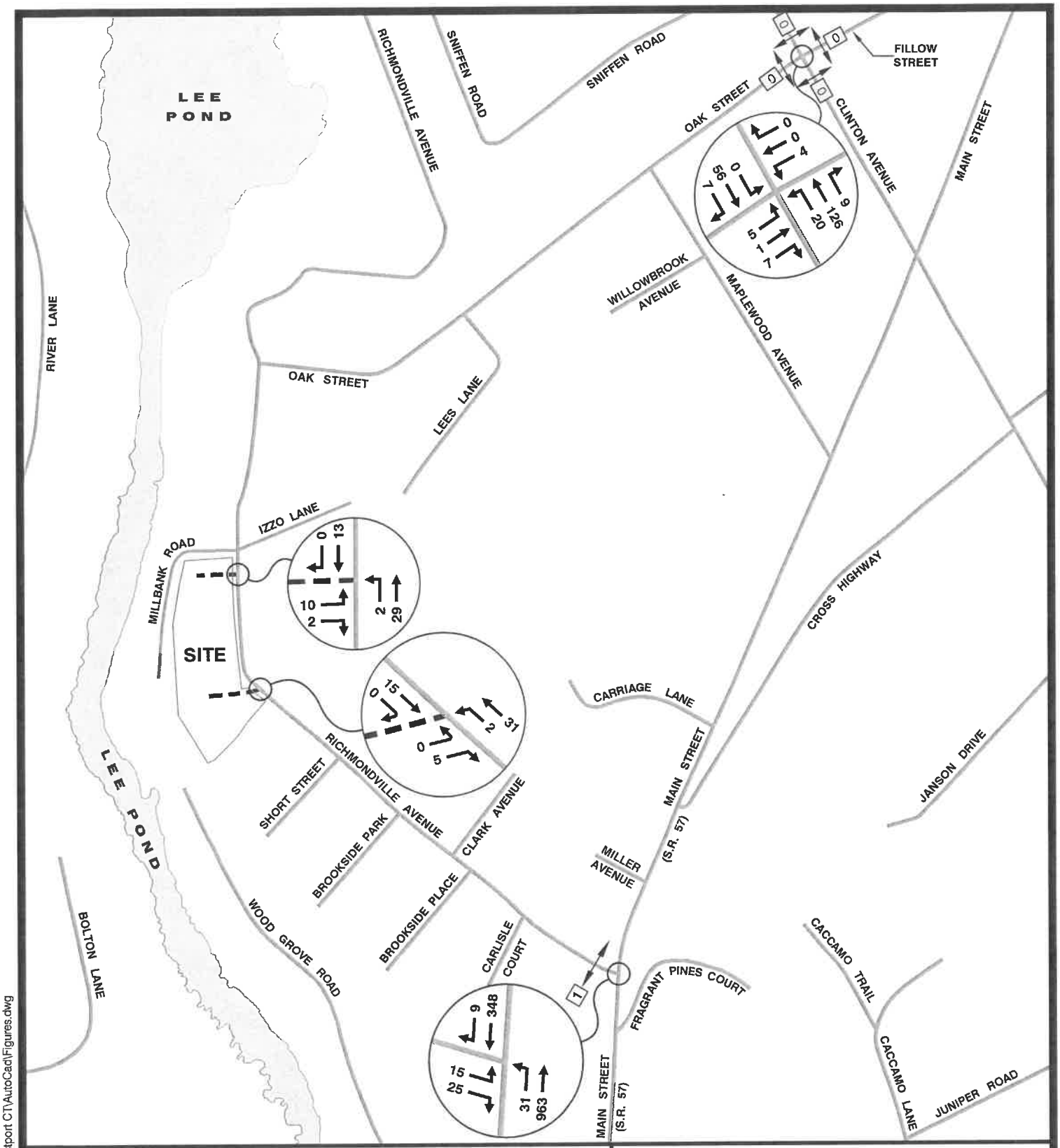

LEGEND:

0 Pedestrians (by approach)

Site Access

NOTE:

Manual turning movement counts conducted by Frederick P. Clark Associates on Wednesday, October 30, 2019, Wednesday, November 13, 2019, Tuesday, December 3, 2019 and Thursday, December 12, 2019.

2019 EXISTING TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR
(4:30 to 5:30 P.M.)

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

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Not to Scale

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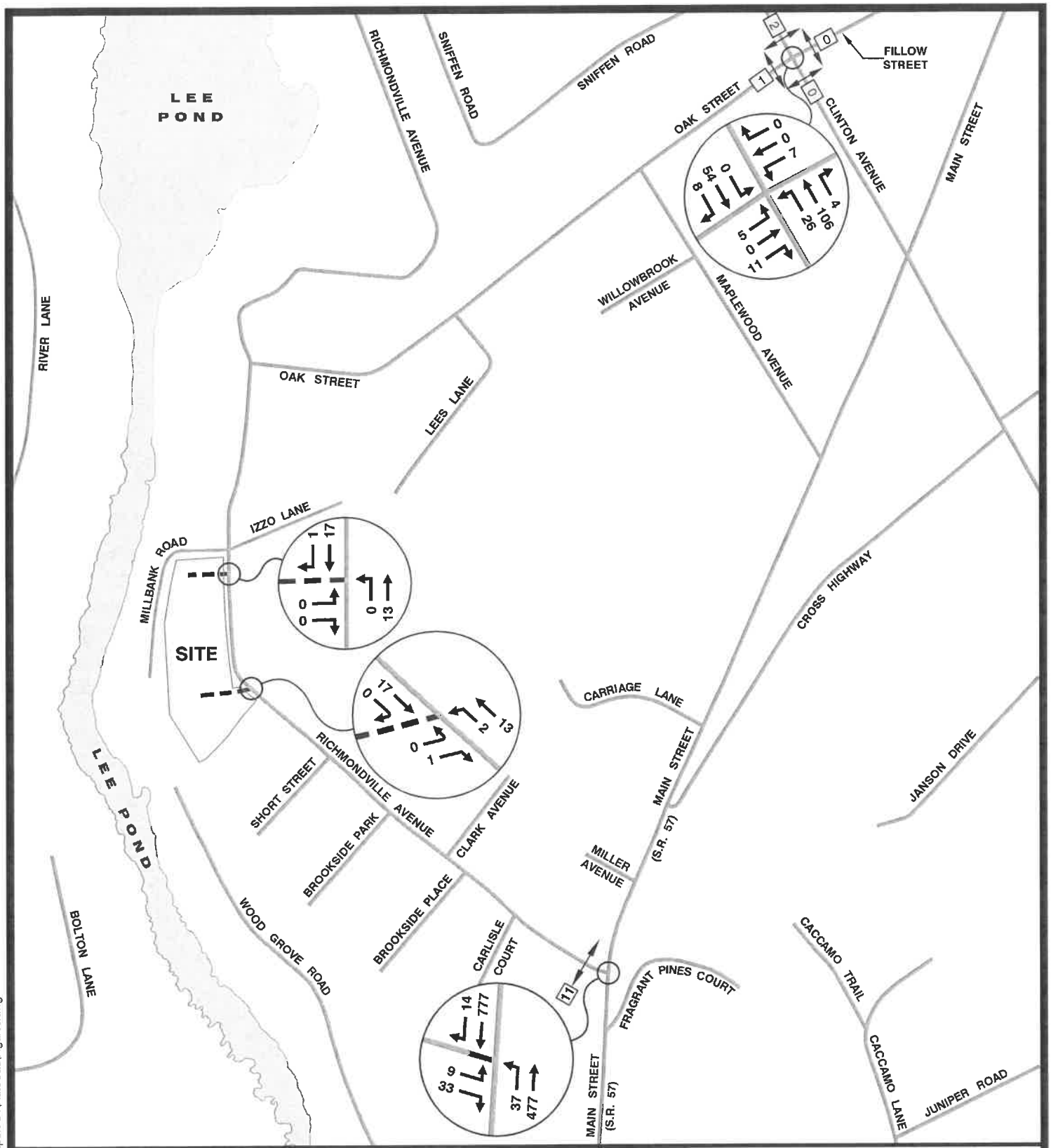

LEGEND:

0 Pedestrians (by approach)

Site Access

NOTE:

Manual turning movement counts conducted by Frederick P. Clark Associates on Saturday, October 26, 2019, Saturday, November 16, 2019 and Saturday, December 7, 2019.

2019 EXISTING TRAFFIC VOLUMES
SATURDAY MIDDAY PEAK HOUR
(12:30 to 1:30 P.M.)

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

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Not to Scale

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Table 1
2019 TWO-WAY TRAFFIC VOLUMES – PEAK HOURS
Proposed Redevelopment – Commercial to Residential
41 Richmondville Avenue,
Westport, Connecticut

LOCATION	VEHICLES		
	Weekday Morning	Weekday Afternoon	Saturday Midday
Main Street, North of Richmondville Avenue	1,146	1,335	1,277
Main Street, South of Richmondville Avenue	1,187	1,367	1,324
Richmondville Avenue, West of Main Street	72	80	135
Richmondville Avenue, South of Southerly Drive	22	51	33
Richmondville Avenue, North of Southerly Drive	41	44	30
Southerly Drive, West of Richmondville Avenue	10	2	2
Richmondville Avenue, South of Northerly Drive	41	46	30
Richmondville Avenue, North of Northerly Drive	42	52	31
Northerly Drive, West of Richmondville Avenue	1	14	1
Oak Street, West of Clinton Avenue	38	40	50
Oak Street, East of Clinton Avenue	6	14	11
Clinton Avenue, North of Oak Street	120	194	173
Clinton Avenue, South of Oak Street	135	222	208

Source: Manual turning movement counts conducted by Frederick P. Clark Associates on Wednesday, October 30, 2019, Saturday, October 26, 2019, Wednesday, November 13, 2019, Saturday, November 16, 2019, Tuesday, December 3, 2019, Thursday, December 12, 2019 and Saturday, December 7, 2019.

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In addition to the turning movement counts noted above an ATR was installed on Richmondville Avenue, south of the Subject Property southerly driveway for a one-week period in early November. Using the Wednesday, November 6, 2019 volumes as a typical weekday condition it was found that the recorded two-way volume for a 24-hour period was 718 vehicles. A review of the data indicates that during the overnight hours there is little or no traffic on Richmondville Avenue in the vicinity of the site frontage. Traffic volumes begin to increase after 6:00 A.M. and the data indicates that during the morning peak of 7:00 to 8:00 A.M. had 47 vehicles on this roadway. These volumes increased during the morning peak period from 11:00 A.M. to 12:00 Noon, with 63 vehicles identified to be traveling on Richmondville Avenue near the Subject Property. These volumes decreased after 12:00 Noon and increased again slightly at 2:00 P.M. and continued to increase to the afternoon peak hour which generally occurs between 4:00 and 5:00 P.M. During this one-hour period the recorded two-way volume on Richmondville Avenue near the Subject Property was 63 vehicles. After 6:00 P.M. the volumes decrease significantly and after 10:00 P.M. it was found that there were less then 8 vehicles for each hour during the overnight hours. Figure 6 graphically illustrates the hourly volumes by direction for the ATR count.

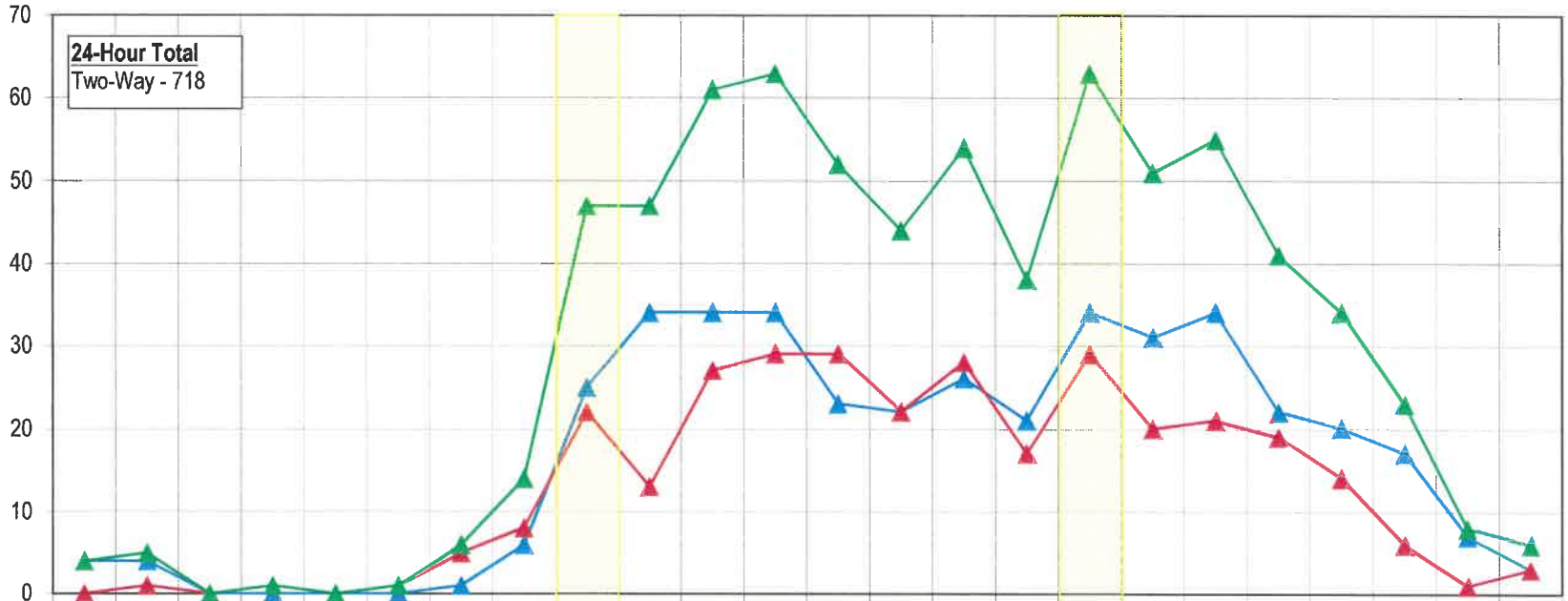
Figure 7 provides a graphic illustration of the ATR data for a Saturday condition at the same location described above. These counts were recorded on October 26, 2019. The data indicates a daily volume of 626 vehicles. During the morning peak period, which occurred between 9:00 and 10:00 A.M. the recorded two-way volume was 69 vehicles. During the midday peak hour between 1:00 and 2:00 P.M. the recorded two-way volume was found to be 56 vehicles. The volumes decreased after that time period, with a slight peak in traffic from 5:00 to 6:00 P.M., with 41 vehicles recorded traveling on Richmondville Avenue.

The Appendix includes the field sheets and results of all the traffic counts described above.

Accident Experience

Accident data was obtained from the Westport Police Department for Richmondville Avenue, between Main Street and Oak Street and at the Main Street intersection. This time period covered a

TWO-WAY HOURLY TRAFFIC VOLUMES - WEDNESDAY, NOVEMBER 6, 2019
RICHMONDVILLE AVENUE, SOUTH OF SITE'S SOUTHERLY ACCESS DRIVEWAY
Proposed Redevelopment - Commercial to Residential
Richmondville Avenue
Westport, Connecticut



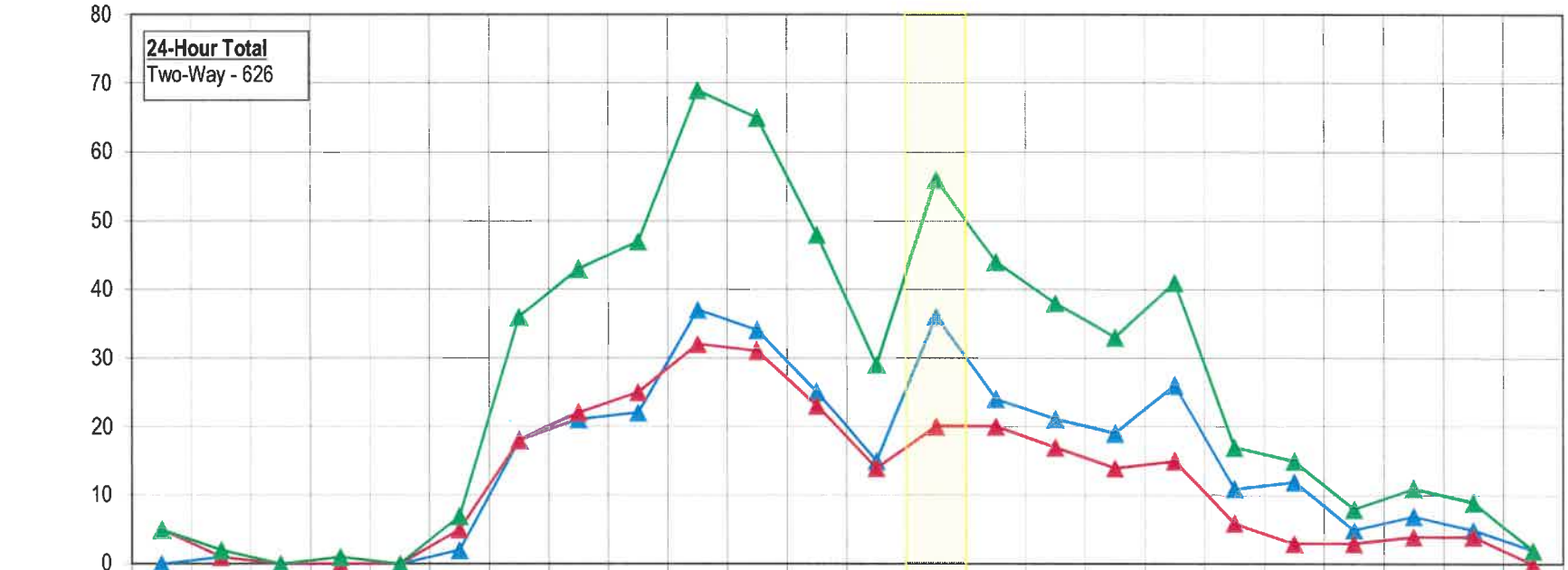
	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
NB	4	4	0	0	0	0	1	6	25	34	34	34	23	22	26	21	34	31	34	22	20	17	7	3
SB	0	1	0	1	0	1	5	8	22	13	27	29	29	22	28	17	29	20	21	19	14	6	1	3
Two Way	4	5	0	1	0	1	6	14	47	47	61	63	52	44	54	38	63	51	55	41	34	23	8	6

Source: Frederick P. Clark Associates

Frederick P. Clark Associates
November 2019

Figure 6

TWO-WAY HOURLY TRAFFIC VOLUMES - SATURDAY, OCTOBER 26, 2019
RICHMONDVILLE AVENUE, SOUTH OF SITE'S SOUTHERLY ACCESS DRIVEWAY
Proposed Redevelopment - Commercial to Residential
Richmondville Avenue
Westport, Connecticut



	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
NB	0	1	0	1	0	2	18	21	22	37	34	25	15	36	24	21	19	26	11	12	5	7	5	2
SB	5	1	0	0	0	5	18	22	25	32	31	23	14	20	20	17	14	15	6	3	3	4	4	0
Two Way	5	2	0	1	0	7	36	43	47	69	65	48	29	56	44	38	33	41	17	15	8	11	9	2

Source: Frederick P. Clark Associates

Frederick P. Clark Associates
November 2019

Figure 7

3-year period beginning January 1, 2016 through December 31, 2018. Results of the analysis of the accident data indicates that on Richmondville Avenue at the Main Street intersection there were six reported accidents during the 3-year period. All of the accidents were limited to property damage and 50 percent involved a motorist hitting a fixed object. Based on our review of this intersection it is likely each of these accidents were motorists traveling southbound on Main Street and not being able to negotiate the curve in the road at the Richmondville Avenue intersection. The remaining accidents were evenly divided between a rear-end collision, a right-angle accident and a sideswipe in the same direction. Contributing factors were either following too closely, failing to grant right-of-way, failing to stay in the proper lane, running off the road or speeding. All of the accidents occurred during daylight hours and mostly on dry road conditions.

At Richmondville Avenue, between Main Street and Oak Street there were two reported accidents during the same 3-year period. Both of the accidents were limited to property damage and both accidents were rear-end collisions. The contributing factors were found to be failure to grant right-of-way. Accidents were evenly divided between daylight and dark conditions and both accidents occurred on dry road conditions. Table 2 provides a more detailed summary of this accident data.

Table 2
ACCIDENT EXPERIENCE SUMMARY – RICHMONDVILLE AVENUE
Proposed Redevelopment – Commercial to Residential
41 Richmondville Avenue,
Westport, Connecticut

	RICHMONDVILLE AVENUE			
	At Main Street		Between Main Street and Oak Street	
ACCIDENTS CHARACTERISTICS	Total	%	Total	%
Year				
▪ 2016	4	67	0	0
▪ 2017	2	33	1	50
▪ 2018	0	0	1	50
▪ Total	6	100	2	100
Accident Severity				
▪ Property Damage	6	100	2	100
▪ Injury	0	0	0	0
Collision Type				
▪ Front to Rear	1	17	0	0
▪ Angle	1	17	2	100
▪ Sideswipe, Same Direction	1	16	0	0
▪ Collision with Fixed Object	3	50	0	0
Contributing Factor				
▪ Following Too Closely	1	17	0	0
▪ Failure to Grant ROW	1	16	2	100
▪ Failure to Keep in Proper Lane	1	17	0	0
▪ Ran Off Roadway	1	17	0	0
▪ Speeding	1	17	0	0
▪ Other	1	16	0	0
Light Condition				
▪ Daylight	6	100	1	50
▪ Dark Lighted	0	0	1	50
Surface Condition				
▪ Dry	5	83	2	100
▪ Ice/Frost	1	17	0	0
Weather Conditions				
▪ Clear	5	83	1	50
▪ Cloudy	0	0	1	50
▪ Freezing Rain/Drizzle	1	17	0	0

Source: Westport Police Department, from January 1, 2016 to December 31, 2018.

Notes: January 1, 2016 to December 31, 2018 is the latest three full years of accident data available.

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FUTURE TRAFFIC IMPACTS

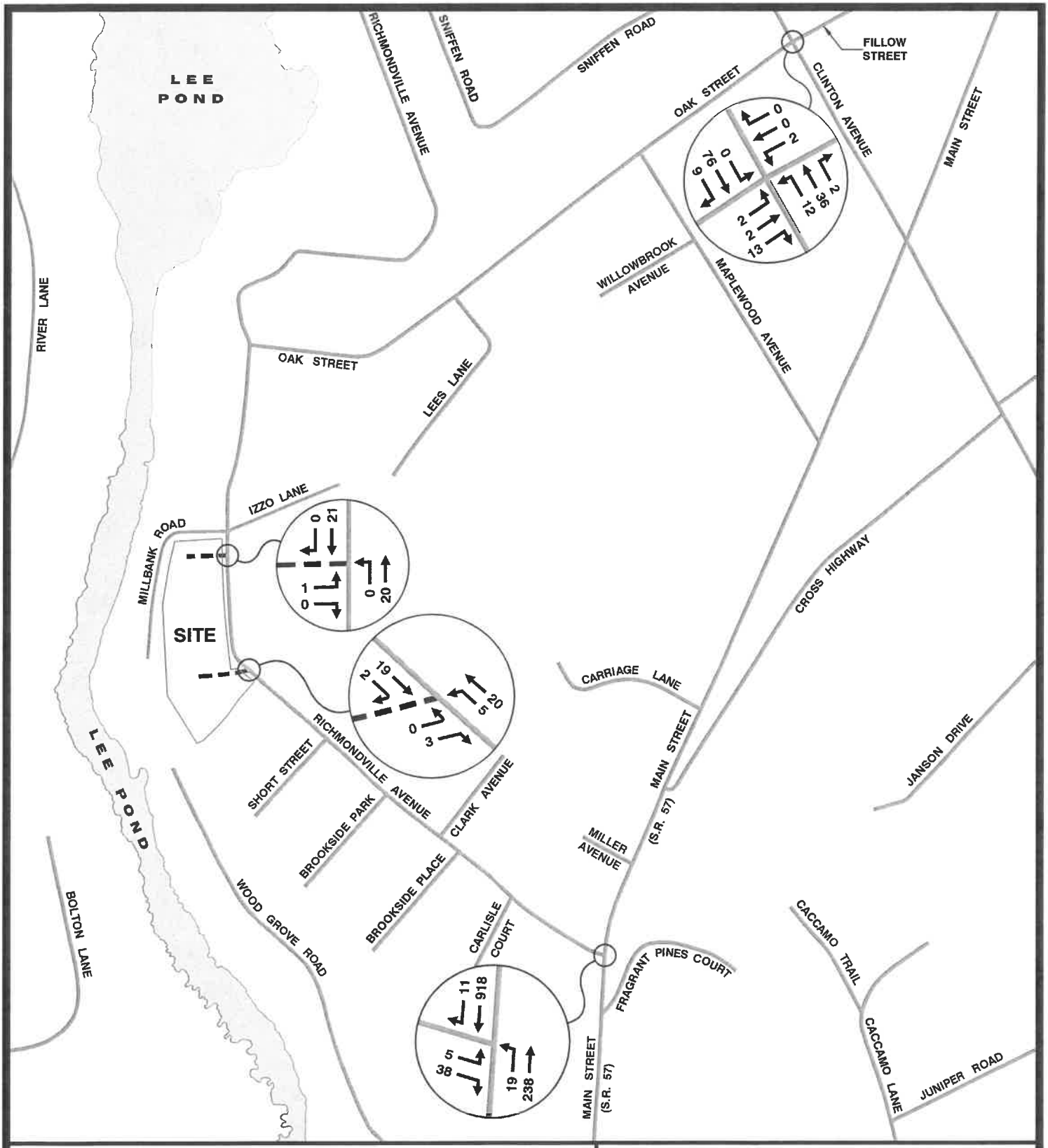
In this section of the report it describes the no-build and build traffic conditions at area road intersections and along Richmondville Avenue in the immediate vicinity of the site. This section also includes a description of existing and future site traffic volumes for the existing and future development of the Subject Property, results of capacity analyses and findings and recommendations.

No-Build Traffic Volumes

To expand the 2019 traffic volumes at each of the intersections included in the designated Study Area, these volumes were increased by an annual growth rate of 0.75 percent, as per the "Downtown Westport Master Plan," prepared by the Town. Figures 8 through 10 graphically indicate the 2022 no-build traffic volumes for the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. It is important to note that in these figures the existing site traffic generation for the current use of the site by office development is included in all of the volumes and specifically at the site driveways.

Estimation of Site-Generated Traffic

Typically, to estimate site traffic for any type of land use, trip generation rates available from the Institute of Transportation Engineers (ITE) and published in "Trip Generation," 10th Edition, published in 2017, are used. However, prior to applying typical ITE trip generation rates, actual traffic counts were conducted at the Terra Nova residential units located at the Norwalk/Westport Town line near Westport Avenue/Post Road west. This is a 54-unit development and the actual traffic counts indicated that it was generating 13, 16 and 44 vehicle trip ends during the typical weekday morning, weekday afternoon and Saturday midday peak hours, respectively. If the ITE trip generation rates were to be applied to the 54 units the ITE publication indicates that this type of development would generate 27, 34 and 38 vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. This indicates a net difference of the reduction in site traffic during the weekday morning and weekday afternoon peak hours of 14 and 18



LEGEND:

Site Access

NOTE:

An annual growth rate of 0.75 percent is employed to the horizon year 2022, as per "Downtown Westport Master Plan, Phased Traffic and Transportation Study". Vicinity developments were accounted for.

2022 NO-BUILD TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

8

2/3/20

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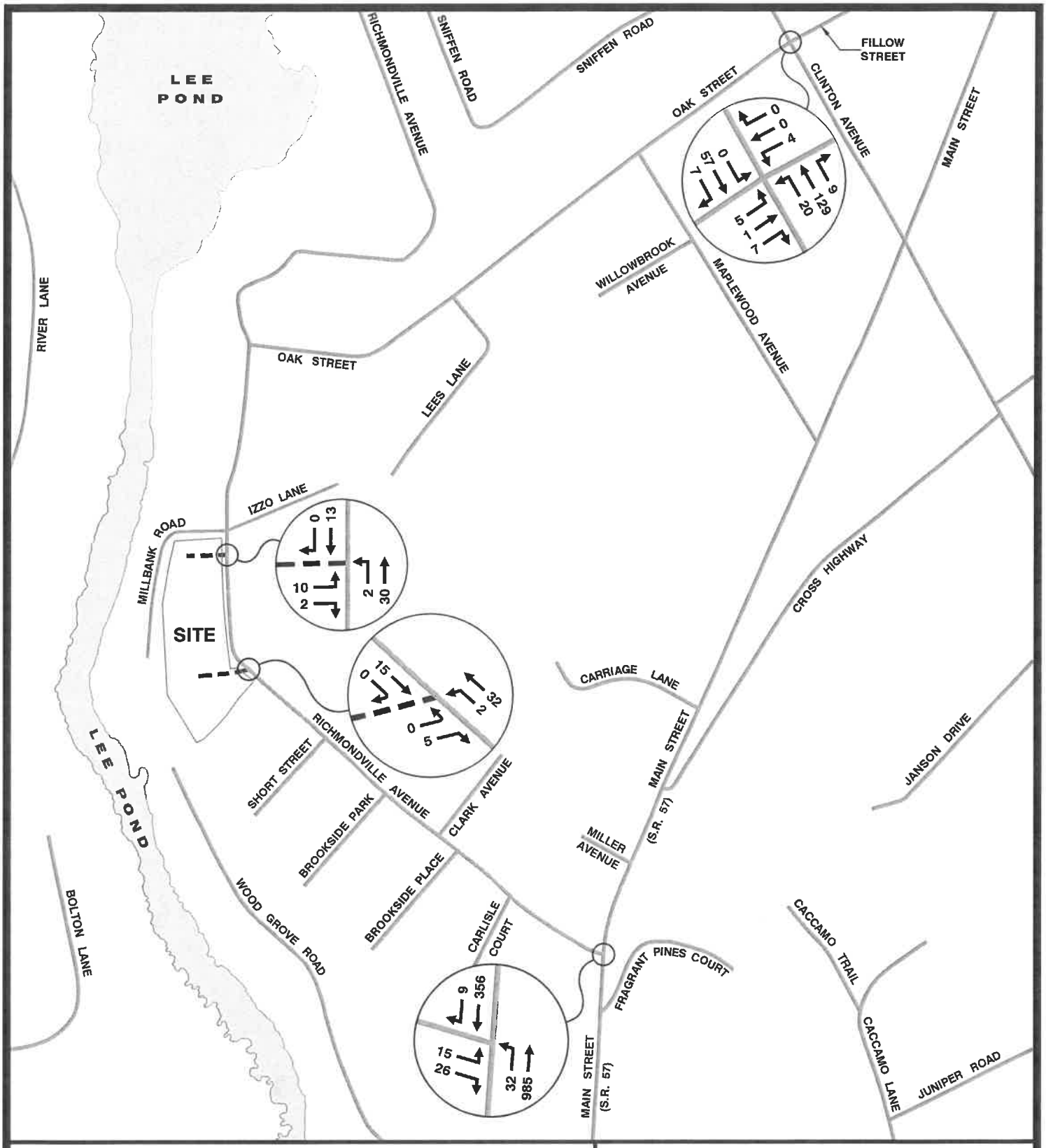

LEGEND:

Site Access

NOTE:
An annual growth rate of 0.75 percent is employed to the horizon year 2022, as per "Downtown Westport Master Plan, Phased Traffic and Transportation Study". Vicinity developments were accounted for.

2022 NO-BUILD TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

9

2/3/20

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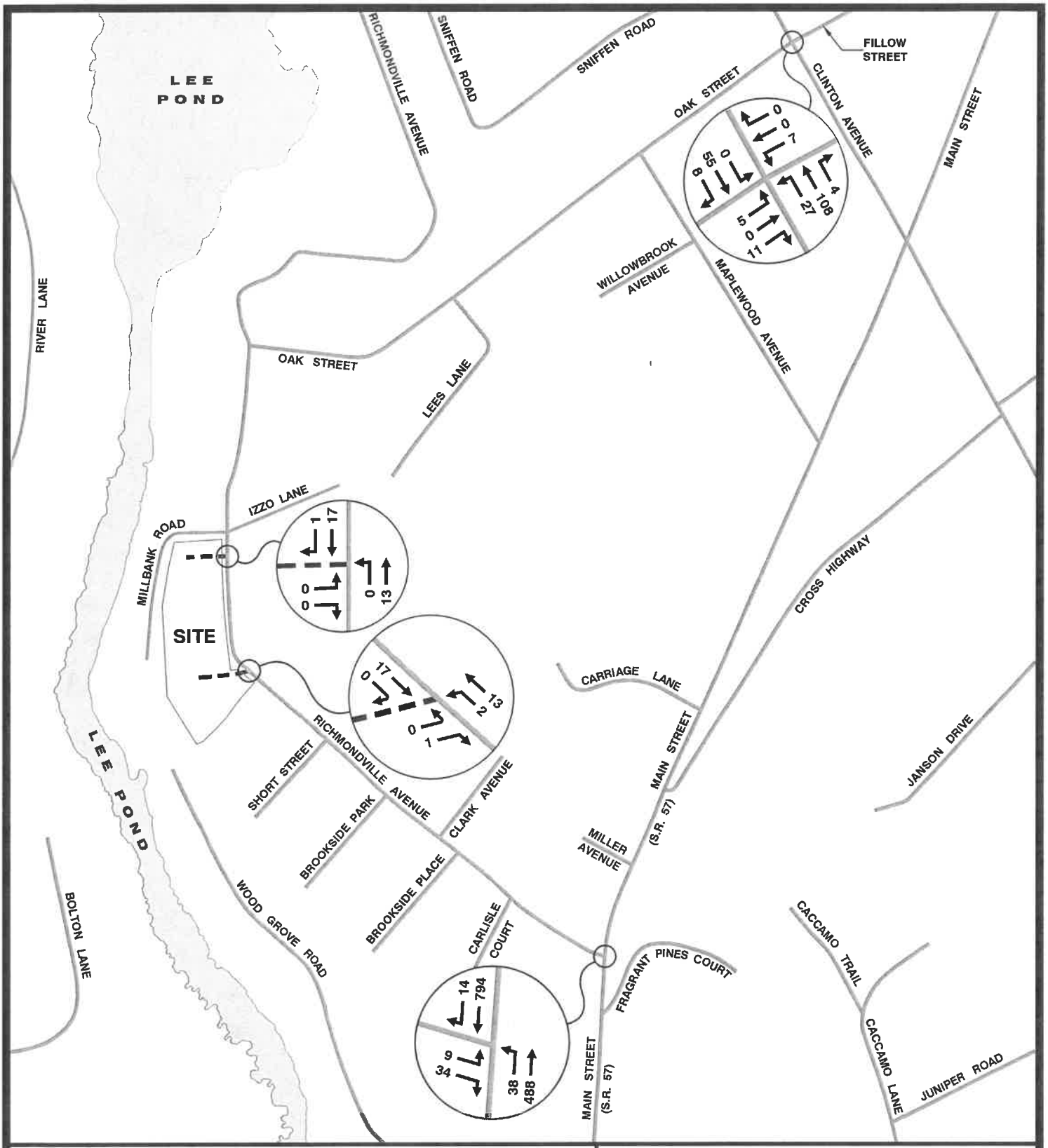

LEGEND:

Site Access

NOTE:
An annual growth rate of 0.75 percent is employed to the horizon year 2022, as per "Downtown Westport Master Plan, Phased Traffic and Transportation Study". Vicinity developments were accounted for.

2022 NO-BUILD TRAFFIC VOLUMES
SATURDAY MIDDAY PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

10

2/3/20

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vehicle trips, respectively and an increase in site traffic of 6 trips during the Saturday midday peak hour. If estimates for the proposed 33 units on the site on Richmondville Avenue was to be applied, the redevelopment of the Subject Property would result in a trip generation of 8, 10 and 27 vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. However, if the ITE trip generation rates were to be used, it is estimated that 17, 22 and 23 vehicle trip ends would be generated during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

The current use of the office building, if it was to be fully occupied, would generate 63, 81 and 29 vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. These site traffic estimates are based on ITE trip generation rates applied to a 55,000 square-foot building. The existing building is not fully occupied and; therefore, generating less traffic than if it was to be fully occupied. Table 3 provides a comparison between the Terra Nova residential unit actual traffic counts and ITE applied trip generation rates to provide this comparison.

For purposes of completing this analysis and to be conservative in its approach and estimates for additional traffic added to Richmondville Avenue and other nearby intersections, the ITE trip generation rates for 33 units is used, which indicates that 17, 22 and 23 vehicle trip ends will be generated and added to area roads during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. Refer to Table 4. Also, refer to a Summary Chart included in the Appendix of this report.

Distribution and Assignment of Site-Traffic

Based on an evaluation of current traffic patterns along Richmondville Avenue, Main Street, Oak Street and Clinton Avenue distribution patterns were developed for the residential development at each of the access drives serving this redevelopment.

The proposal is to maintain the existing site access drives and both driveways will be two-way and provide one travel lane in each direction intersecting with Richmondville Avenue.

Table 3
SITE TRAFFIC GENERATION COMPARISON – PEAK HOURS
Proposed Redevelopment – Commercial to Residential
41 Richmondville Avenue
Westport, Connecticut

LAND USE	SIZE	TRAFFIC DIRECTION	VEHICLE TRIP ENDS		
			Weekday Morning	Weekday Afternoon	Saturday Midday
1) Low-Rise Multifamily Apartments ~ ITE	54 Dwelling Units	Enter	6	21	19
		Exit	21	13	19
		Total	27	34	38
2) Low-Rise Multifamily Apartments ~ Real count data at Terra Nova Circle Apartments	54 Dwelling Units	Enter	3	14	16
		Exit	10	2	28
		Total	13	16	44
3) Low-Rise Multifamily Apartments ~ITE	33 Dwelling Units	Enter	4	14	11
		Exit	13	8	12
		Total	17	22	23
Net Difference (2-1)		Enter	-3	-7	-3
		Exit	-11	-11	9
		Total	-14	-18	6
Net Difference (3-2)		Enter	1	0	-5
		Exit	3	6	-16
		Total	4	6	-21

Sources:

1. "Trip Generation," 10th Edition, published by the Institute of Transportation Engineers (ITE), 2017 using Multifamily Housing (Low-Rise), Code #220, fitted curve equation for the weekday morning and weekday afternoon peak hours and average rate for the Saturday midday peak hour.

2. Real turning movement counts data collected by Frederick P. Clark Associates on Wednesday, October 30, 2019 and on Saturday, October 26, 2019.

Frederick P. Clark Associates
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02/03/20

Table 4
SITE TRAFFIC GENERATION – PEAK HOURS
Proposed Redevelopment – Commercial to Residential
41 Richmondville Avenue
Westport, Connecticut

LAND USE	SIZE	TRAFFIC DIRECTION	VEHICLE TRIP ENDS		
			Weekday Morning	Weekday Afternoon	Saturday Midday
Low-Rise Multifamily Apartments	33 Dwelling Units	Enter	4	14	11
		Exit	13	8	12
		Total	17	22	23

Sources: "Trip Generation," 10th Edition, published by the Institute of Transportation Engineers (ITE), 2017 using Multifamily Housing (Low-Rise), Code #220, fitted curve equation for the weekday morning and weekday afternoon peak hours and average rate for the Saturday midday peak hour.

Frederick P. Clark Associates
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1/30/20

Based on an evaluation of traffic patterns it is estimated that 40 percent will arrive from the south on Main Street, 40 percent will arrive from the north on Main Street at the Richmondville Avenue intersection, 10 percent will arrive from the south on Clinton Avenue, 5 percent will arrive from the north on Clinton Avenue and 15 percent will continue southwest on Oak Street to access the site. From the estimates from Main Street to the south of the Subject Property, 80 percent will travel northbound on Richmondville Avenue to access the site and use both existing site driveways to access the on-site parking to serve the residential development. Figure 11 provides a graphic illustration of these percentages. Figures 12 through 14 graphically show the site traffic generation applied to these distribution patterns for the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

Build Traffic Volumes

To develop build traffic volumes the site traffic generation described above is added to the no-build traffic volumes, previously described. These volumes show build traffic volumes for a 2022 traffic condition and is the basis for the analysis to determine potential impact to area roadways and nearby intersections. These volumes are graphically shown in Figures 15 through 17 for the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

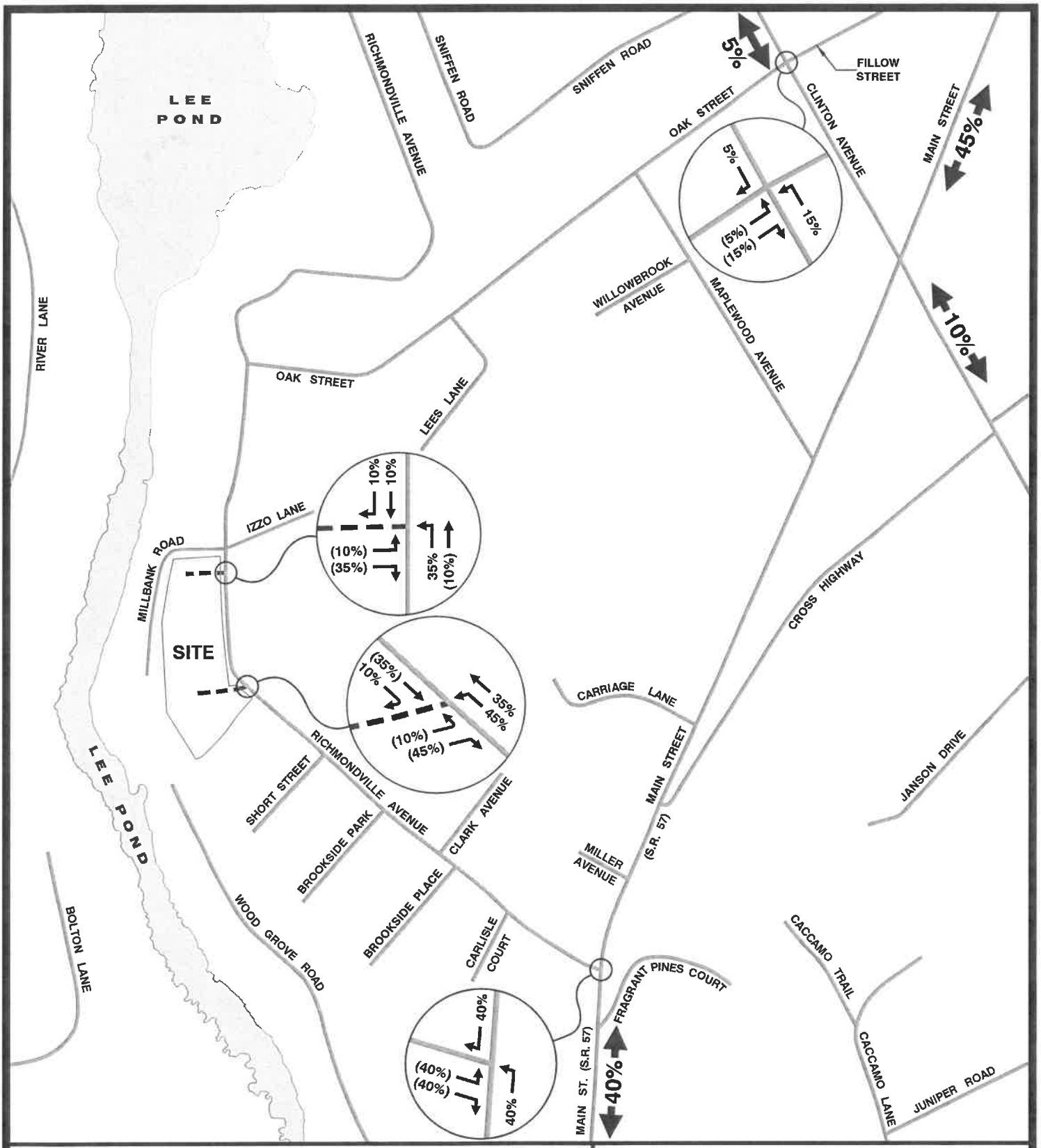
Capacity Analysis Procedures

Capacity analysis procedures are provided in the Appendix of this report. The analyses follow a SYNCHRO 10 Computer Model and information contained in the Highway Capacity Manual (HCM) 6th Edition, prepared by the Transportation Research Board (TRB).

Capacity Analysis Results

The analyses were completed for existing, no-build and build traffic conditions at the following intersections:

- Richmondville Avenue at Main Street;
- Richmondville Avenue at site southerly drive;
- Richmondville Avenue at site northerly drive; and,



SITE TRAFFIC
Enter 00%
Exit (00%)

LEGEND:

00% Directional Distribution

Site Access Drives

SITE TRAFFIC DISTRIBUTION

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

11

2/3/20

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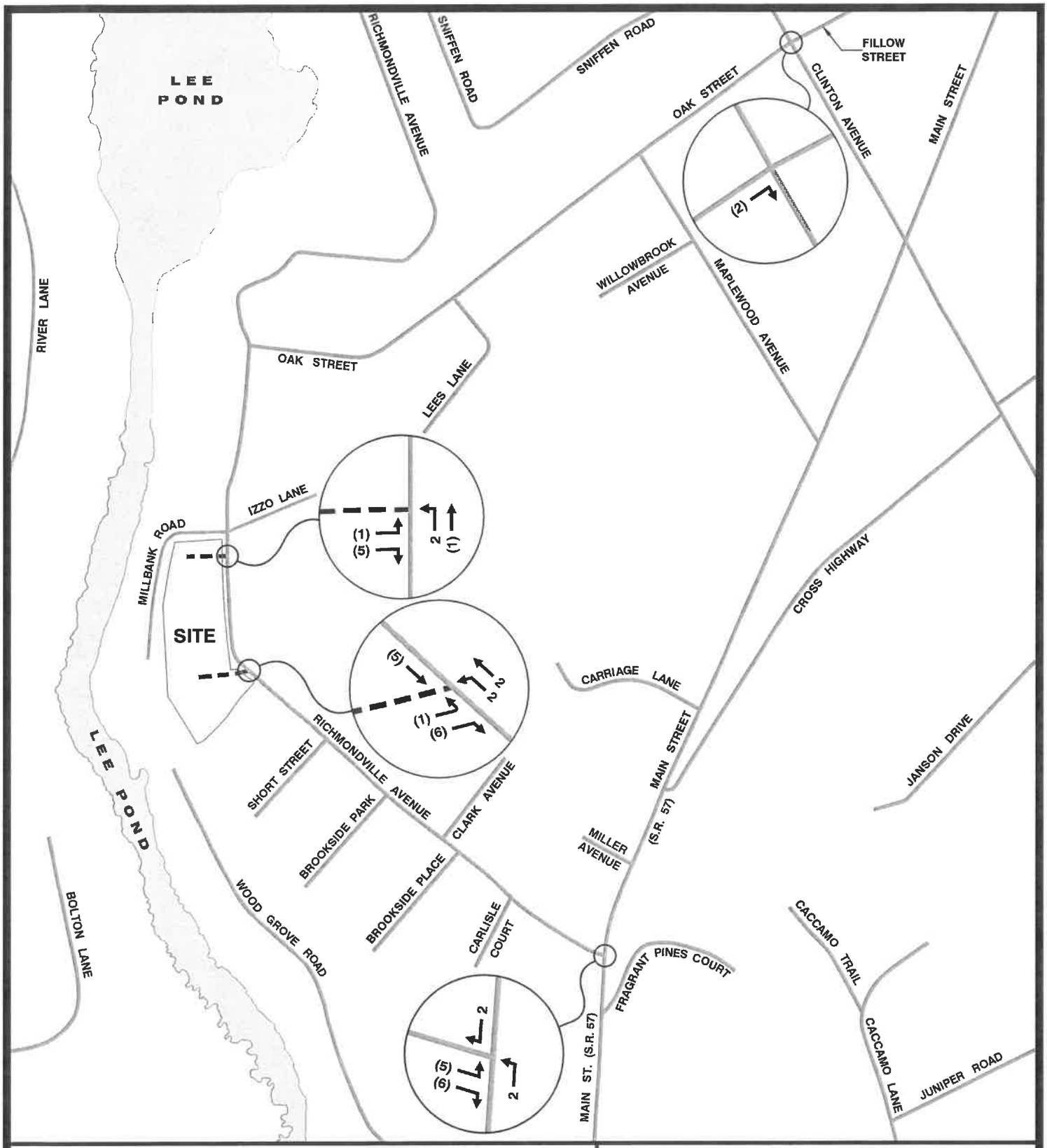

SITE TRAFFIC:
Enter 4
Exit (13)
Total 17 Vehicle Trip Ends

LEGEND:
Site Access Drives

SITE TRAFFIC GENERATION & ASSIGNMENT
WEEKDAY MORNING PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

12

2/3/20

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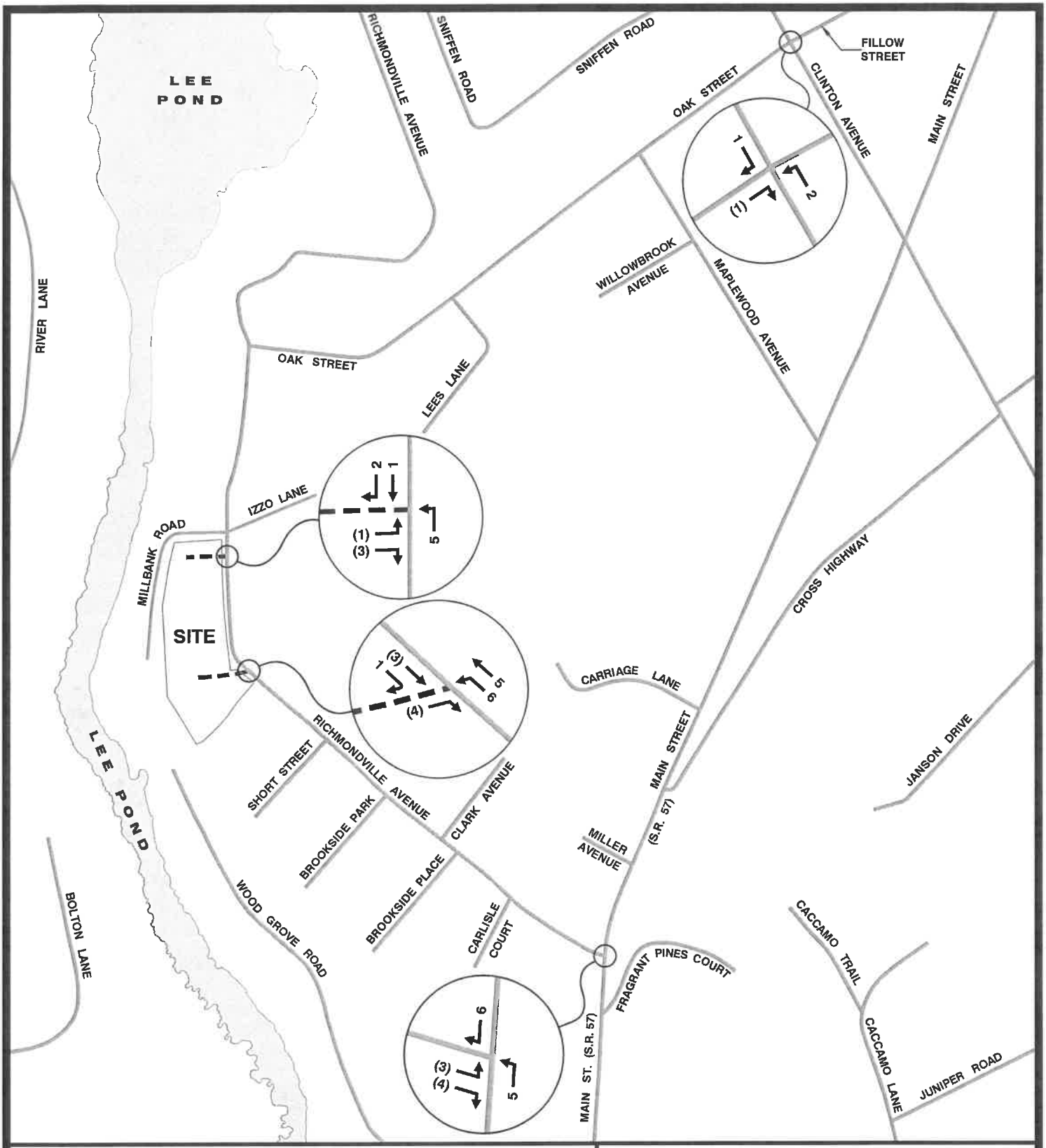

SITE TRAFFIC:
Enter 14
Exit (8)
Total 22 Vehicle Trip Ends

LEGEND:
Site Access Drives

SITE TRAFFIC GENERATION & ASSIGNMENT
WEEKDAY AFTERNOON PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

13

2/3/20

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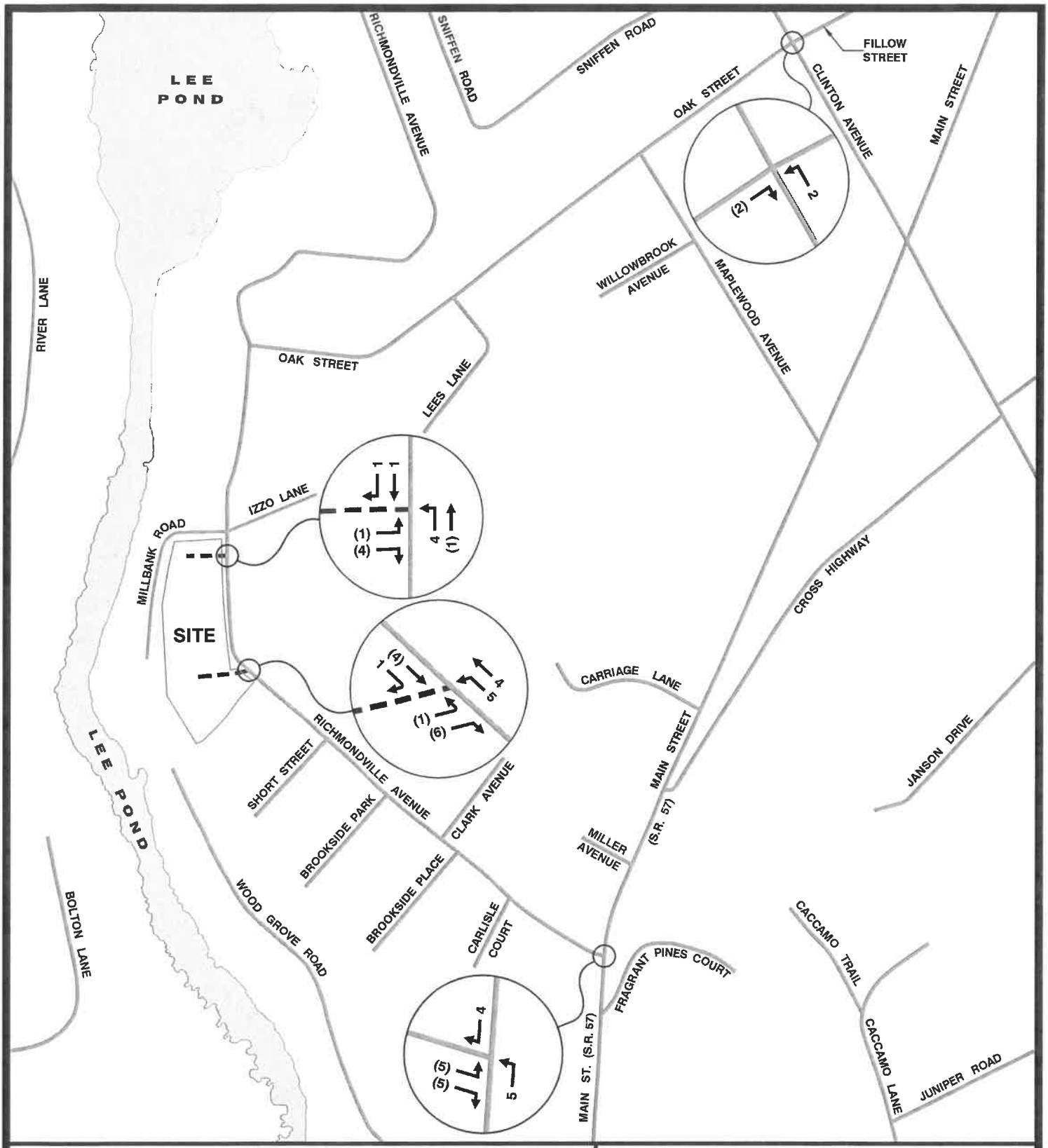

SITE TRAFFIC:
Enter 11
Exit (12)
Total 23 Vehicle Trip Ends

LEGEND:
Site Access Drives

SITE TRAFFIC GENERATION & ASSIGNMENT
SATURDAY MIDDAY PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

14

2/3/20

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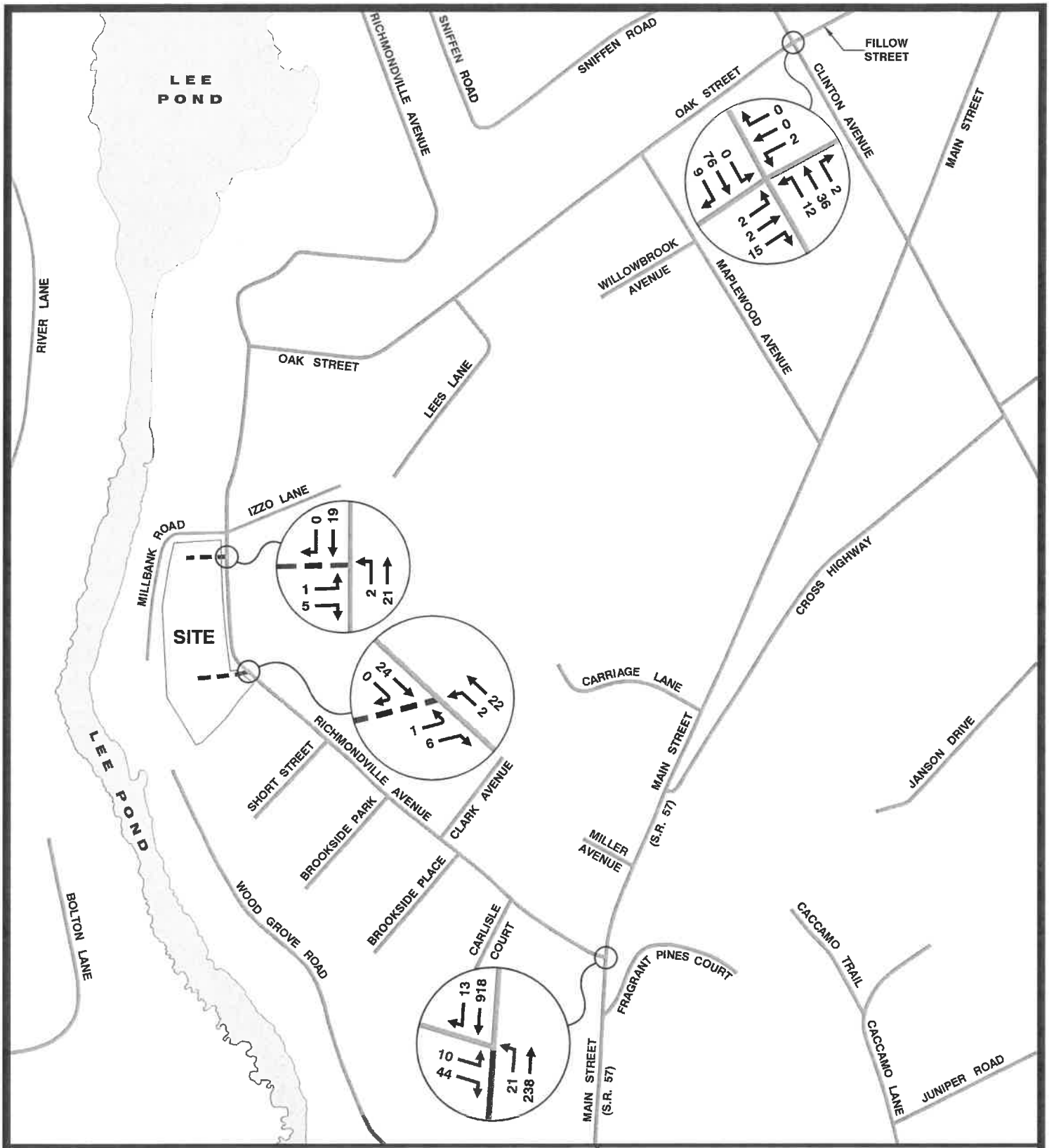

LEGEND:

Site Access Drives

NOTE:
2022 Build Traffic Volumes include 2022 No-Build Traffic Volumes and Site Traffic Generation.

2022 BUILD TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

15

2/3/20

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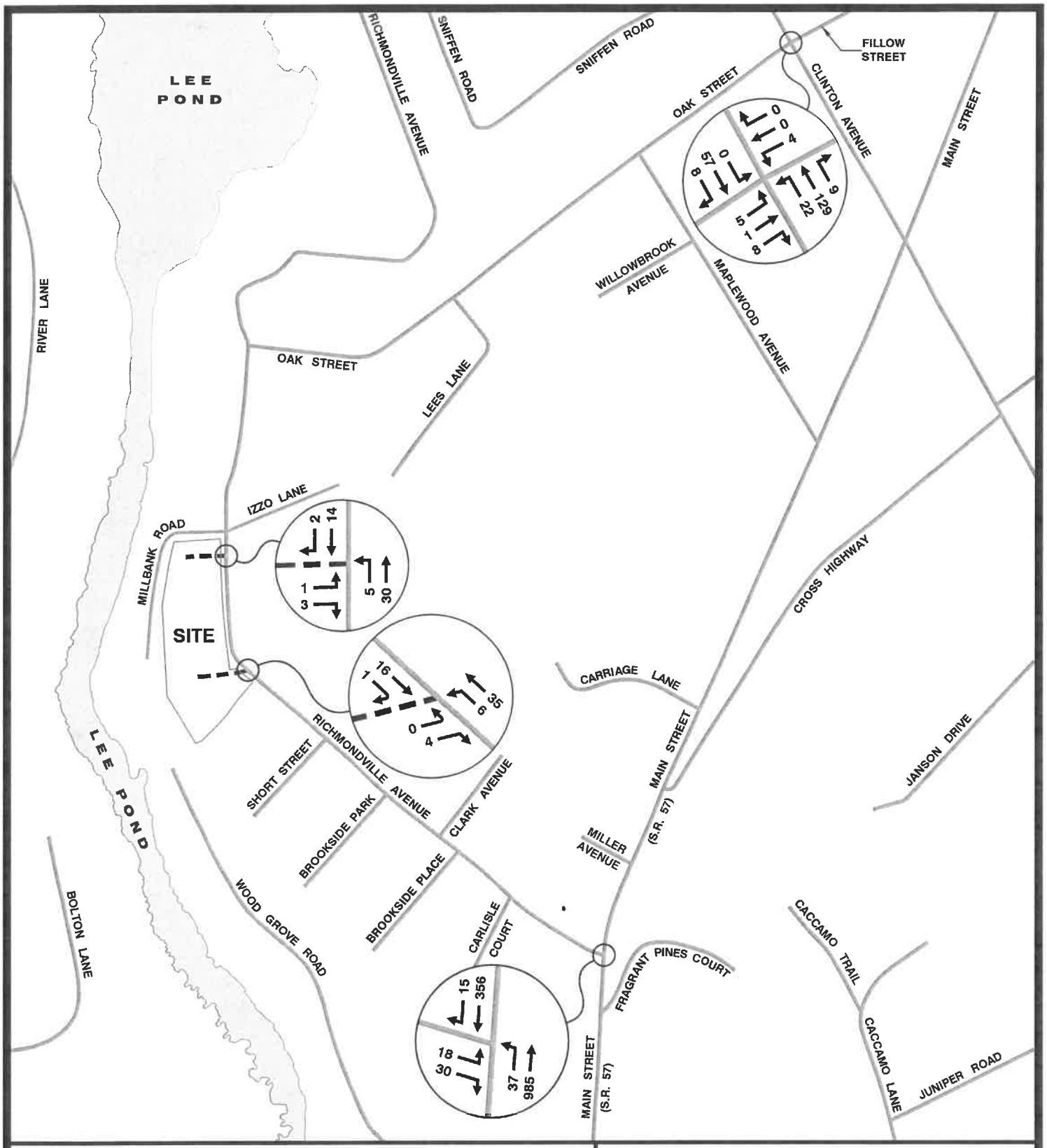

LEGEND:

Site Access Drives

NOTE:
2022 Build Traffic Volumes include 2022 No-Build Traffic Volumes and Site Traffic Generation.

2022 BUILD TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

16

2/3/20

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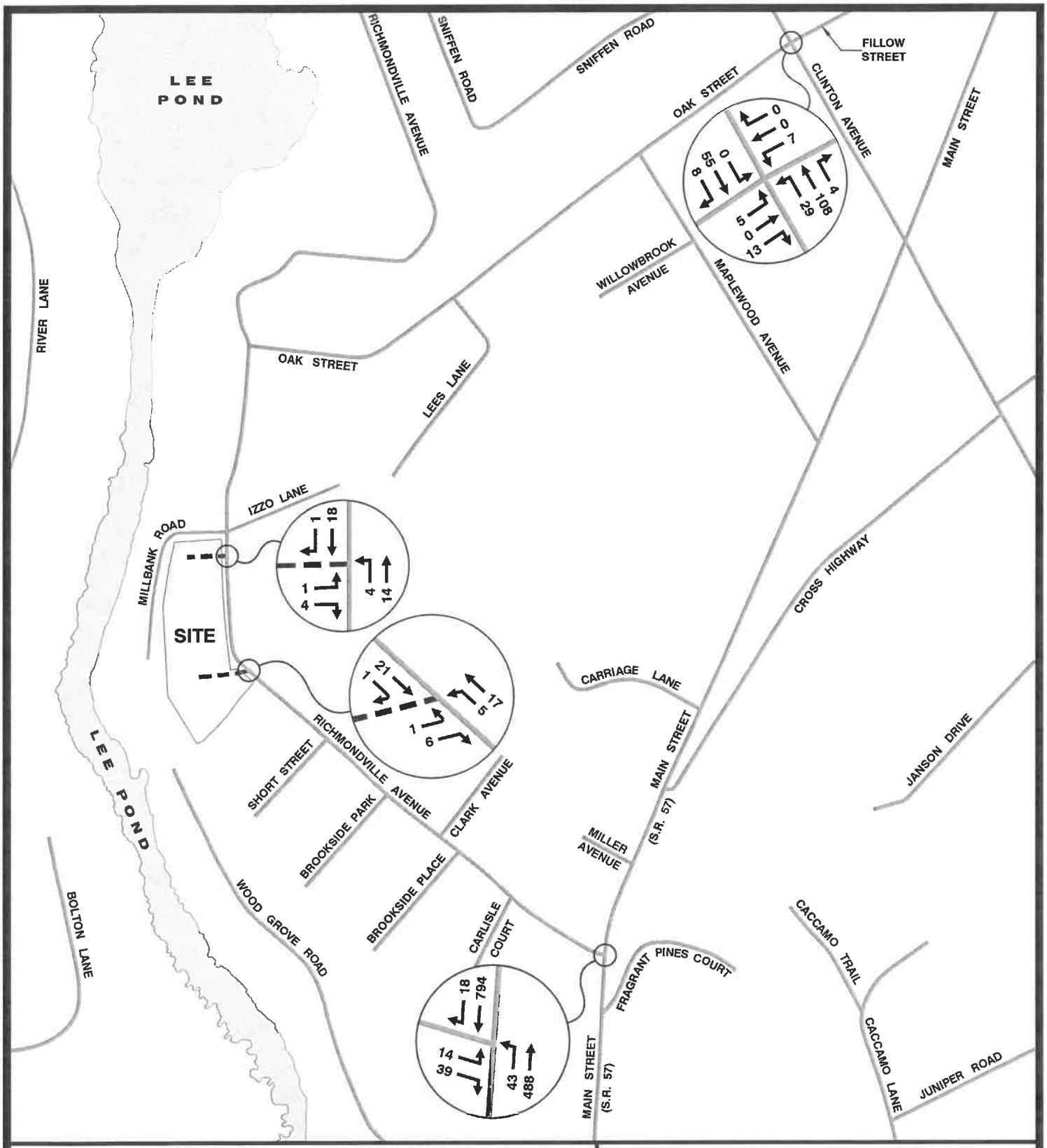

LEGEND:

Site Access Drives

NOTE:
2022 Build Traffic Volumes include 2022 No-Build Traffic Volumes and Site Traffic Generation.

2022 BUILD TRAFFIC VOLUMES
SATURDAY MIDDAY PEAK HOUR

PROPOSED REDEVELOPMENT
COMMERCIAL TO RESIDENTIAL
41 Richmondville Avenue
Westport, Connecticut

N

FREDERICK P. CLARK ASSOCIATES
A HARDESTY & HANOVER COMPANY

Not to Scale

17

2/3/20

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- Oak Street at Clinton Avenue.

The results of the analyses for each of these intersections is described below:

1. *Richmondville Avenue at Main Street*

2019 Existing Conditions – Results of the analysis of this STOP sign controlled intersection indicate that it is currently operating at a Level of Service "C", "C" and "D" during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. The Level of Service noted above reflects the Richmondville Avenue approach Level of Service, which is a critical movement in an analysis of a T-type intersection, which is STOP sign controlled.

No-Build Conditions – Results of the analysis indicate that this STOP sign controlled intersection will maintain the same Levels of Service in a future traffic condition as noted above for existing conditions.

Build Conditions – Results of the analysis indicate that this STOP sign controlled intersection (only eastbound approach) with site traffic added to the intersection, will operate at Level of Service "C", "D" and "E" during each hour. The eastbound Richmondville Avenue approach will experience a delay in Level of Service, which would be the same with a full office use.

2. *Oak Street at Clinton Avenue*

Existing Conditions – Results of the analysis of this STOP sign controlled intersection indicated it is currently operating at an overall Level of Service "A" during each of the peak hours.

No-Build Conditions – Results of the analysis indicate this intersection will continue to operate at the same Level of Service as is existing conditions. It is important to note that the existing conditions and no-build conditions include the current level of office traffic generated at the site and included in the traffic volumes for an existing and no-build condition.

Build Conditions – Results of the analysis indicate that with the net increase in site traffic with the conversion of the building from office to residential will maintain the same overall Level of Service during each of the peak hours.

3. *Richmondville Avenue at Site Northerly Driveway*

Existing Conditions – Results of the analysis of this T-type, uncontrolled intersection indicates it operates at Level of Service "A" during each of the peak hours.

No-Build Conditions – Results of the analysis indicate this intersection will continue to operate at the same Level of Service "A" during each peak hour.

Build Conditions – Results of the analysis, with site traffic generation for a residential development indicate it will continue to operate at Level of Service "A" during each of the peak hours.

4. *Richmondville Avenue at Site Southerly Driveway*

Existing Conditions – Results of the analysis of this T-type, uncontrolled intersection indicates it operates at Level of Service "A" during each of the peak hours.

No-Build Conditions – Results of the analysis indicate this intersection will continue to operate at the same Level of Service "A" during each peak hour.

Build Conditions – Results of the analysis, with site traffic generation for a residential development indicate it will continue to operate at Level of Service "A" during each of the peak hours.

Results of the analysis are summarized in Table 5 for existing, no-build and build conditions. Capacity analysis worksheets are included in the Appendix of this report.

Traffic Signal Warrant Analysis

To respond to comments from residents there was a concern with general traffic operations at the Main Street/Richmondville Avenue intersection. Therefore, to address possible modifications

to traffic control, such as the installation of a traffic signal, a 12-hour traffic count was conducted at this intersection for a weekday on Wednesday, October 30, 2019.

The following criteria set forth by CTDOT and followed by the Town a preliminary traffic signal warrant analysis was conducted. There are different types of warrants to determine if a traffic signal is warranted. The criteria followed was if minimum traffic volumes are met at this intersection for a typical weekday. Table 6 summarizes the two-way volume on Main Street for a period beginning 7:00 A.M. through 7:00 P.M. and for the Richmondville Avenue approach during the same peak hours. Based on a review of the data there is adequate minimum traffic volumes found on Main Street for an 8-hour period; however, there were not minimum volumes found on the Richmondville Avenue approach to the intersection for any 8-hour period. Therefore, this intersection would not meet the standards typically found on Warrants 1A and 1B which follow criteria for minimum traffic volumes and minimum interruption of traffic at an intersection. Since the minimum volumes were not identified in the actual traffic count, further analyses were not necessary. Therefore, the findings is this intersection should continue as a STOP sign controlled intersection, with a STOP sign located at Richmondville Avenue.

Roadway Modifications

To address concerns of residents and others, a more detailed assessment of Richmondville Avenue was completed to identify existing conditions, such as roadway pavement width, pavement condition, traffic control signing, parking regulations, pavement markings and side of the road obstacles, such as stonewalls, driveways and intersections.

As noted above, Richmondville Avenue is a two-lane roadway maintained by the Town. It has a pavement width that is typically in the range of 17 to 27 feet. There are no pavement markings on Richmondville Avenue.

Table 5
CAPACITY AND STORAGE/QUEUE ANALYSIS RESULTS – MEASURE OF EFFECTIVENESS (MOE) AND IMPACT ASSESSMENT – PEAK HOURS
Proposed Redevelopment – Commercial to Residential
41 Richmondville Avenue
Westport, Connecticut

				2019 EXISTING CONDITIONS (BASELINE)									2022 NO-BUILD CONDITIONS									2022 BUILD CONDITIONS									PROJECT IMPACTS (NO-BUILD TO BUILD)					
				Weekday Morning			Weekday Afternoon			Saturday Midday			Weekday Morning			Weekday Afternoon			Saturday Midday			Weekday Morning			Weekday Afternoon			Saturday Midday			Weekday Morning		Weekday Afternoon		Saturday Midday	
INTERSECTION	CONTROL TYPE	STORAGE /LINK LENGTH	PHYSICAL UNITS	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	LOS/ Delay	V/C Ratio	Queue Length (Feet)	Deterio-ration in LOS	Project Delay (Seconds)	Deterio-ration in LOS	Project Delay (Seconds)	Deterio-ration in LOS	Project Delay (Seconds)
Main Street at Richmondville Avenue	TWSC	1000+	EB Ln1	C/19.3	0.148	13	C/22.5	0.177	15	D/29.1	0.261	25	C/19.8	0.156	13	C/23.3	0.187	18	D/30.5	0.277	28	C/21.5	0.205	20	D/25.0	0.227	23	E/37.9	0.381	40	No	1.7	C – D	1.7	D – E	7.4
		420	NB L	B/10.1	0.027	3	A/8.2	0.029	3	B/10.6	0.068	5	B/10.2	0.028	3	A/8.2	0.030	3	B/10.8	0.071	5	B/10.2	0.031	3	A/8.2	0.035	3	B/10.9	0.080	8	No	0.0	No	0.0	No	0.1
Richmondville Avenue at Southerly Driveway	TWSC	100	EB Ln1	A/8.5	0.005	0	A/8.6	0.014	0	A/8.5	0.003	0	A/8.5	0.005	0	A/8.6	0.014	0	A/8.5	0.003	0	A/8.6	0.011	0	A/8.6	0.011	0	A/8.7	0.019	3	No	0.1	No	0.0	No	0.2
		1000+	NB L	A/7.3	0.005	0	A/7.3	0.004	0	A/7.3	0.003	0	A/7.3	0.005	0	A/7.3	0.004	0	A/7.3	0.003	0	A/7.3	0.002	0	A/7.3	0.011	0	A/7.3	0.009	0	No	0.0	No	0.0	No	0.0
Richmondville Avenue at Northerly Driveway	TWSC	100	EB Ln1	A/8.8	0.000	0	A/8.9	0.020	2	--	--	--	A/8.8	0.000	0	A/8.9	0.020	2	--	--	--	A/8.5	0.010	1	A/8.6	0.010	1	A/8.5	0.008	1	No	-0.3	No	-0.3	No	8.5
		275	NB L	A/0.0	--	0	A/7.3	0.002	0	A/0.0	--	--	A/0.0	--	0	A/7.3	0.002	0	A/0.0	--	--	A/7.3	0.002	0	A/7.3	0.005	0	A/7.3	0.004	0	No	7.3	No	0.0	No	7.3
Clinton Avenue at Oak Street	AWSC	1,000+	EB Ln1	A/6.9	0.020	3	A/7.3	0.016	0	A/7.2	0.022	3	A/6.9	0.020	3	A/7.3	0.016	3	A/7.2	0.022	3	A/6.9	0.022	3	A/7.3	0.017	3	A/7.2	0.024	3	No	0.0	No	0.0	No	0.0
		1,000+	WB Ln1	A/7.5	0.002	0	A/7.7	0.005	0	A/7.7	0.010	0	A/7.5	0.002	0	A/7.7	0.005	0	A/7.7	0.010	0	A/7.5	0.002	0	A/7.7	0.005	0	A/7.7	0.010	0	No	0.0	No	0.0	No	0.0
		575	NB Ln1	A/7.4	0.061	5	A/8.0	0.188	18	A/8.0	0.179	15	A/7.4	0.064	5	A/8.0	0.192	18	A/8.0	0.184	18	A/7.4	0.064	5	A/8.0	0.195	18	A/8.0	0.186	18	No	0.0	No	0.0	No	0.0
		215	SB Ln1	A/7.4	0.101	8	A/7.4	0.077	5	A/7.4	0.081	8	A/7.4	0.103	8	A/7.4	0.079	8	A/7.4	0.082	8	A/7.4	0.104	8	A/7.4	0.080	8	A/7.4	0.083	8	No	0.0	No	0.0	No	0.0
		--	Overall	A/7.3	--	--	A/7.8	--	--	A/7.8	--	--	A/7.3	--	--	A/7.8	--	--	A/7.8	--	--	A/7.3	--	--	A/7.8	--	--	A/7.8	--	--	No	0.0	No	0.0	No	0.0

Notes:

- Synchro 10.0/HCM 6th Edition results are used for capacity analysis.
- Level of Service determining parameter is called the service measure.
- For TWSC and AWSC Intersections: Level of Service/Average Control delay per vehicle (seconds/vehicle).
- V/C ratio indicates the amount of congestion for each Lane and Movement. Any V/C ratio greater than or equal to one indicates that the Lane or Movement is operating at above capacity.
- The Queue Length rows show the 95th percentile maximum queue length in feet.
- The Queue Length is for each lane. The total queue length is divided by the number of lanes and the lane utilization factor.
- The 95th percentile queue is the maximum back of the queue with the 95th percentile traffic volumes.
- TWSC = Two-Way STOP Control.
- AWSC = All-Way STOP Control.
- Physical Units consist of the following:
    1. TWSC Intersections: Critical Lane and Critical Movement.
    2. AWSC Intersections: Lane and Intersection Overall.

EB = Eastbound WB = Westbound NB = Northbound SB = Southbound
L = Left Turn Ln = Lane

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Table 6
2019 APPROACH VOLUMES - WEEKDAY
Proposed Redevelopment – Commercial to Residential
41 Richmondville Avenue,
Westport, Connecticut

TIME	APPROACH	
	Main Street	Richmondville Avenue
7:00 AM	1,161	42
8:00 AM	1,097	36
9:00 AM	839	29
10:00 AM	657	32
11:00AM	730	28
12:00 PM	741	34
1:00 PM	826	37
2:00 PM	933	25
3:00 PM	1,154	36
4:00 PM	1,254	38
5:00 PM	1,310	30
6:00 PM	1,074	20

Source: Manual turning movement counts conducted by Frederick P. Clark Associates on Wednesday, October 30, 2019.

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On-street parking is generally prohibited and there are signs located on Richmondville Avenue north of Main Street and in the vicinity of the site to prohibit parking. Other locations have a parking regulation; however, on-street parking is typically not found due to the narrow roadway.

This road provides adequate lane width for two-way traffic flow in most sections; however, there are narrow sections, such as the 17-foot wide section noted above. This road does not have any paved shoulders or shoulder lines and stonewalls and grade changes are located along the immediate edge of the road for its entire length for different sections between Main Street and Oak Street.

If the Town was to address concerns of nearby residents, a long-term plan could be to widen the roadway to provide two 11-foot travel lanes or wider where appropriate and to maintain the wider pavement in the vicinity of the site frontage. However, based on an assessment of roadway and right-of-way conditions it is likely that there is no right-of-way to provide a widening of road, removal of stonewalls or regrading along the edge of road to provide a more open feeling for motorists traveling on this roadway. However, it is important to note that any type of widening of the road, such as that described above, could result in an increase in speed of motorists traveling on this roadway.

It is believed that the more appropriate approach would be to apply traffic calming measures, where feasible, to reduce the speed of motorists traveling on this roadway. Options were considered and could be implemented by the Town if determined appropriate or meet current standards followed by the Town. The options considered are listed below:

- *Installation of sidewalks* – As noted above, there is inconsistent or no right-of-way available to provide sidewalks within the Town right-of-way.
- *Installation of speed humps* – The Town does not allow speed humps on its roadways.
- *Installation of additional speed limit signs* – This is appropriate and the Town should consider installing speed limit signs at three locations in both directions on Richmondville Avenue.

- *Installing warning signs for intersections* – There are many side road intersections and private roads and driveways along Richmondville Avenue. It would be inappropriate to install an intersection sign for each intersection on Richmondville Avenue.
- *Consider installing STOP signs on Richmondville Avenue at the Millbank Road/Izzo Lane intersection* – STOP signs are typically installed when there is equal volume on each approach to an intersection. Although detailed traffic counts were not conducted of the Millbank Road/Izzo Road approaches it is clear the Richmondville Avenue carried a higher volume of traffic. Therefore, installing a STOP sign for Richmondville Avenue does not meet standards followed by the Town and provided in Manual of Uniform Traffic Control Devices.

Findings

This Traffic Access and Impact Study was prepared for submission to the Town of Westport for consideration to determine potential impacts, if any, for the redevelopment of the Subject Property located at 41 Richmondville Avenue. The site is currently occupied by office uses within the building comprising approximately 55,000 square feet of floor area. The proposal is to eliminate a portion of the building, remodel and upgrade the remaining building to provide 33 residential units.

Access to the will be maintained at two existing site driveways one located to the north of the building and one located to the south of the building to Richmondville Avenue. On-site parking will be provided for residents and guests. It is anticipated that all deliveries such as Federal Express and UPS will access the southerly driveway to access the building.

A development of this type and size is estimated to generate 17, 22 and 23 vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. The existing use of the building, if fully occupied, could generate 63, 81 and 29 vehicle trip ends during the same peak hours noted above. If trip generation rates obtained through actual traffic counts at the Terra Nova development referenced in this report were to be used, this redevelopment of the Subject Property on Richmondville Avenue would result in site traffic generation of 8, 10 and 27 vehicle trip ends during the same weekday morning, weekday afternoon and Saturday midday

peak hours, respectively. Regardless of the trip generation rates used in this analysis and for consistency the ITE trip generation rates are used since they are generally higher for most of the peak hours used in the analysis. This development will have minimal impact on traffic conditions and operational characteristics of Richmondville Avenue or at the intersections of Oak Street at Clinton Avenue; however, at the Main Street/Richmondville Avenue intersection there will be a change in Level of Service "D" to "E" during the Saturday midday peak hour. This is due to a six second increase in delay, which would match that of a fully occupied office building.

Based on the results of the analyses, which indicates Level of Service will remain the same, there are no recommendations to modify traffic control or pavement markings other than at the site driveways and along the site frontage.

It is recommended that at the site driveway STOP signs be installed to control exiting movements from the site and include a STOP bar and a short double yellow centerline at the approach to the intersection with Richmondville Avenue. Along the site frontage any opportunities to install a curb to separate the pavement to the front of the existing building would be appropriate to create this separation. It is recommended that where there are currently NO PARKING signs installed along Richmondville Avenue near the site frontage that additional signing be installed along the westerly side of the road and specifically along the site frontage and existing building to prohibit on-street parking.

Based on an evaluation of possible traffic calming measures there are limited opportunities; however, the Town may consider long-term to widen the sections of Richmondville Avenue that are 17 feet in width to provide at least a pavement width of 22 feet. However, there is no available right-of-way to provide this roadway improvement at this time.

The results of the analyses and evaluations of Richmondville Avenue and other intersections near the site is that the redevelopment of the Subject Property from an office development to a residential development will result in a reduction in site traffic and a reduction in potential impacts to area roadways. This is considered an overall benefit to the neighbors and residents near the site.

As noted above, the existing traffic control operation of the Main Street/Richmondville Avenue intersection as a STOP sign control intersection is appropriate and should be maintained. There are no opportunities to consider the installation of a traffic signal based on the results of traffic counts and an assessment of traffic volumes following criteria followed by the Town and CTDOT for minimum volume for warrants and minimum volumes for interruptions of traffic.

To potentially reduce speed or introduce traffic calming to Richmondville Avenue the width of the pavement is actually a mitigating measure to potentially reduce speed. However, along the site frontage it may be appropriate to install some type of curbing and physical separation between the pavement and the building frontage where there is adequate additional pavement area to do so without impacting traffic operations.

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